

# small air forces observer

UKRAINIAN GOTHA GL VII  
SAAB 91 SAPPHIRE  
INDONESEAN OV-10  
BRAZILIAN FW 58  
VULTEE VANGUARD  
LATIN PC-7  
FIAT G-55

US \$2.00



vol 6 no 4 (24)

July 1982

# small air forces observer

the newsletter of the Small Air Forces Clearing House

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- 1 Mexican Air Force B-25J. \$1.75
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TBU #58 SAMOLOT MYSLIWSKI SPITFIRE Mk I-V, K. Choloniewski. 20 pages; 6 1/2 by 9 1/2 inches, 14 photos, 14 color side views, and one color 4-view drawing. Spitfires in Polish Squadrons. \$3.00

BACK ISSUES: New subscriptions begin with all issues of the volume current at the time payment is received. If you desire otherwise, please specify issues desired. Back issues, when available, are \$1.25 each plus postage. Issues #1 through #9 are out of print, although Xerox copies are available at cost. For a list of back issues and their costs, send 2 1st class stamps (or 2 IRCs) to the editorial office.

SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the a/c of the smaller countries". In support of this goal, the SAFO will publish articles on all aspects of aviation, both military and civil, from all periods of time and for all the smaller countries. (1) All manuscripts submitted by members will be published in the next available issue of the SAFO. (2) Subscription money will be used only to print and mail the SAFO; there will be no "miscellaneous" column in our budget. And, (3) members are encouraged to sponsor subscriptions for organizations, libraries, individuals (especially those in countries where US funds are difficult to obtain).

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SAFO is distributed in England by Midland Counties Publications, 24 The Hollow, Earl Shilton, Leicester LE9 7NA; and in the USA by Bill Dean Books, 166-41 Powells Cove Blvd., Whitestone, NY 11357.

A limited number (one, unless otherwise indicated) of the following are available from the editorial office. (All money collected for the sales of Eastern European kits and books go to send needed material to SAFCH members in these countries.) All prices are in US \$ and include surface postage.

POLISH PROFILES (TBU): RWD-8 (8), Lubin R.XIII (5), TS-8 Bies (3), TS-11 Iskra, Il-2 (2), Li-2 (2), Tu-2, Il-28, Su-7 (2), Mi-1 (3), MiG-3 (7), MiG-19 (7), SB-2 (3), Beaufighter (5), Spitfire (36), Wellington (13), Mustang (13), Breguet 19 (2), Avia B-534. \$3.00 each.

MODEL-AIRE INTERNATIONAL COLLECTOR'S CHECK LIST (1/72-scale aircraft, rockets, missiles, spacecraft, & vehicles). \$4.00

F-104G, HISTOIRE DU LOCKHEED STARFIGHTER EN SERVICE A L'OTAN by Verhegghen. \$6.00.

IPMS AUSTRIA, PANORAMA 4/81 (SAAB 91 issue) \$3.00.

L+K #5 '82: Cz. Sqn. in RAF, Ju 287, VFW 614; #6 '82: Cz. Sqn. in RAF, Caproni AP-1, Napier-Heston J-5 Racer, Spanish NATO a/c (color); #7 '82: Cz. Sqn. in RAF (color), Rufe, HS-748; #8 '82: RWD-14 Czapla, Buckingham, An-12 (color). (Only drawings listed.) \$2.00 each.

FLIEGER REVUE #1 '81: An-32, An-2F, A-7 (color); Su-7, Ta-3. (Only drawings listed). \$2.00.

MODEL KONSTRUCTOR (Russian) #12 1980 (MiG-8 plans in 1/40 scale). \$2.00

VIET NAM JOURNAL #1. \$1.00.

MIKRO KITS: (1/72) Jak-1M and LWS Czapla \$5.00 each.

RUCH KITS: MiG-15 \$4.00

USSR KITS: (1/100) Il-18 \$10.00.

DECALS (REVELL-BRAZIL): Varig DC-10, Cruzeiro B.727, Varig Super Constellation. \$0.50 each.

POSTER: Aviacao Naval 1979 (16 by 22 inches) 7 color side-view drawings of Brazilian helicopters. \$1.00.

EDITORIAL: As the letters on page 119 show, aviation research is always interesting and sometimes downright exciting. However, the "friction" generated by the current exchange seems to be providing as much "heat" as it does "light". One perceptive readers comments: "It demonstrates the energy of SAFCH members and the will for cooperation that many have, but what I do not like is that some seem to want to be the TRUTH in person. This confrontation does have some benefit, but as the SAFO is a magazine with the clear purpose 'from aviation enthusiasts for aviation enthusiasts', what I am afraid of is that if things go on this way, the SAFO will become a propaganda organ and a dog-fight medium for a few!"

It should be obvious to all that the best way to settle a controversy is for all parties concerned to get together in the spirit of cooperation. Of course, uncertainties and differences in interpretation will frequently remain, but the common good will be served best if the arguments are organized before publication in the SAFO. In most cases, the persons involved should choose a coordinator. However, if this is not possible, then I am available to help find some knowledgeable but unbiased member to serve in this capacity. A major goal of the

Continued on page 119

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# Fiat G.55

## in Post-War Service

The Fiat G.55 Centauro, Macchi C.205V Veltro, and Regiane Re.2005 Saggittaro mark high points of World War II Italian fighter technology. Offsprings of lithe Italian airframes and powerful German engines, all three designs matched the best Allied and Axis fighters extant. But Italian industrial output, hurt by material shortages and constant Allied bombing, manufactured only limited quantities of all three fighters before the country's surrender in September 1943. Aer Macchi, for instance, produced 100 M.C.205V Veltros, while Caproni-Reggiane managed only 34 Re.2005 Saggittaros. Aeritalia/Fiat's production figures proved equally meager: about 30 Centauros entered Regia Aeronautica ranks before capitulation (a).

Production of the Fiat and Macchi designs continued in northern factories for the Aviazione Nazionale Repubblicana, air arm of Mussolini's fascist Repubblica Sociale Italiana (b). Even here, however, Fiat officials, with an eye to the future, helped plan the Italian aviation's post-war rebirth - and the Centauro's return to production.

Sufficient supplies of airframes, components, and Daimler Benz DB 605A engines to reinstate G.55 production survived World War II. So in 1946, Aeritalia/Fiat completed the first examples of rebuilt post-war variants: the G.55A single-seat fighter-bomber and G.55B two-seat advanced trainer.

Italy's Aeronautica Militare received the first production machines a year later. Seven G.55A's and six G.55B's served briefly with training schools at Lecce and Galatina before being reconditioned for export because of Aeritalia's inability to fulfill production contracts on schedule. From these and 16 more under construction, the Royal Egyptian Air Force received 17 G.55A's and two G.55B's (c).

Argentina took delivery of 30 G.55A's and 15 G.55B's in 1947-48 (d). All saw service as advanced trainers with the I Brigada Aerea at El Palomar Air Force base, and with the IV Brigada Aerea at El Plumerillo Air Force base, Mendoza. Each aircraft carried serials in six positions: on either rear fuselage side, and on upper and lower wing surfaces. Codes consisted of large, block-style "C-" prefixes (for "caza" or "fighter") followed by two numerals: C-01 to C-30 for the G.55A's and C-31 to C-45 for the G.55B's. Argentina initially took delivery of unarmed machines, each aircraft retaining provision for an engine-mounted 20 mm canon. Some G.55A's at Mendoza, however, eventually received two underwing gondolas with 12.7 mm machine guns each (e).

But despite the aircraft's excellent performance, Argentine pilots preferred the much slower Curtiss Hawk 750. Shortages of engine spares, a common problem with DB 605A-powered post-war variants, eventually forced retirement in 1954. The aircraft were scrapped that same year.

Syria received 16 G.55A's (f), although details of their procurement, delivery, and service remain sketchy.

### NOTES:

a. See, for instance, data in Ref. 11 pp. 5, 15, and 23.

b. Arena, Ref. 9, p. 43, reports 148 Centauro fighters manufactured. This generally reflects data in other sources. Higher production figures (see Dimensione Cielo III, p. 15, for instance) represent engineless airframes or largely unfulfilled production contracts. Even these received Italian "matricola militare" (MM) codes. Indeed, Ref. 10, p. 214f, notes only about "180 cellule complete ma prive di motore" on record.

c. See Ref. 9, pp. 147, 175, and 179; and Ref. 10, p. 214f. Ref. 3, p. 205, reports Egypt's 17 G.55A's as carrying an armament of four 12.7 mm machine guns. Reference 5, p. 9, puts the totals at 22 G.55A's and 17 G.55B's. Egypt, incidentally, received G.55A MM.91086,

sole example of the wartime G.55S "Silurante" or "torpedo" fighter. Photos appear in Ref. 9, pp. 170f, 177.

d. The information on Argentine G.55's largely comes from correspondence in Ref. 1, p. 45. Additional notes on the Italian training mission to Argentina appear in Ref. 9, p. 148.

e. Photos in Ref. 1, p. 45; Ref. 2, p. 262; and Ref. 3, p. 205, clearly depict Argentine G.55A's devoid of wing armament.

f. Reference 6, p. 17. Reference 5, p. 9, records Syria receiving 73 Centauro versions: 35 G.55A's, 15 G.55B's, 20 Rolls Royce Merlin-powered G.59-2A's, and three G.59-2B's. These appear to be rather inflated figures: Italy's post-war aviation industry experienced grave labor problems, acute materials shortages, and intense international competition - especially from thousands of surplus American and British warplanes released for sale. Ibid. also describes Syrian G.55 camouflage as alternating upper-surface swaths of verde oliva scuro and nicciola chairo 4. "Azure blue" covered all under surfaces. A color-chip chart in Ref. 12 provides paint samples and Humbrol mixes.

g. Photos of "Syrian" G.55A's, purportedly taken during delivery at Damascus, appear in Ref. 9, p. 190. Arena, however, captions these "versione modificata G.59", Rolls Royce Merlin-powered machines. Indeed, Ref. 6, p. 17, simply labels one of the same photos a "linie di G.55 in consegna ad una aviazione araba" - without precisely identifying the customer government. Visible underwing national markings, moreover, show no difference in tone between the outer ring and inner dot. This suggests identical colors on both insigne segments. Inner dots on Syrian markings, on the other hand, are black, considerably darker in black-and-white photos than the outer green rings. Further, Ref. 2, p. 262, and Ref. 4, p. 258, infer that Syria only received single-seat G.59-2A's and two-place G.59-2B's. The photos in Refs. 9 and 6 clearly depict Daimler Benz DB 605A-powered variants with one gun in each wing. Could these machines be Egyptian?

h. Reference 10, p. 214, suggests that Egypt might have received all 29 machines from both initial Italian production batches - 19 G.55A's and ten G.55B's. Perhaps these machines were consigned to Egypt, without ever having entered Egyptian service. At any rate, figures of 19 (Refs. 3 and 9), 29 (Ref. 10), and 39 (Ref. 5) machines for the Royal Egyptian Air Force seem too coincidental to be true!

### Post-War Production

	Source	Ref. 3	Ref. 9	Ref. 5	Ref. 6
Argentina	G.55A	30	30	30	
	G.55B	15	15	15	
		45	45	45	
Egypt (h)	G.55A	17	17	22	
	G.55B	2	2	17	
		19	19	39	
Syria	G.55A	0		35	?
	G.55B	0		15	?
		0		50	16
Italy	Production Batch		First	Second	
	G.55A		7	12	
	G.55B		6	4	
			13	16	

# List of Works Consulted:

1. \_\_\_\_\_, "Archivo", Aerei, Vol. 5, No. 5 (May 1977).
2. \_\_\_\_\_, "Centaur - The Final Fling", Air Enthusiast International, Vol. 6, No. 5 (May 1974).
3. \_\_\_\_\_, "Fighter A to Z", Air International, Vol. 16, No. 4 (April 1979).
4. \_\_\_\_\_, "Fighter A to Z", Air International, Vol. 16, No. 5 (May 1979).
5. \_\_\_\_\_, "Warpaint", Aviation News, Vol. 10, No. 2 (19 June - 2 July 1981).
6. Apostolo et al, Dimensione Cielo: Immagini, Vol. D3, Rome, Italy: Edizioni dell'Ateneo & Bizzarri, 1978.
7. Arena, Air War in North Italy 1943-1945, Modena, Italy: S.T.E.M. Mucchi, 1975.
8. Arena, Battaglie nei Cieli d'Italia 1943-1945, Genoa, Italy: Intyrama, 1971.
9. Arena, I Caccia della Serie 5, Modena, Italy: S.T.E.M. Mucchi, 1977.
10. Arena, La Regia Aeronautica 1943-1946, 2 vols., Modena, Italy: S.T.E.M. Mucchi, 1978.
11. Brotzu et al, Dimensione Cielo, Vol. 3, Rome, Italy: Edizioni Bizzarri, 1972.
12. Degl'Innocenti and Postiglioni, Colori e Schemi Minetici della Regia Aeronautica 1935-1943, Ravenna, Italy: CMPR (Club Modellismo Plastico Ravenna), 1977.
13. Malizia, Vita e Vicende de l'Aeronautica Militare Italiana, Rome, Italy: Edizioni dell'Ateneo & Bizzarri, 1979.
14. Sgarlato, Italian Aircraft of World War II, Warren, Mich.: Squadron/Signal Publications, 1979.
15. Thompson, Italian Civil and Military Aircraft 1935-45, Fallbrook, Calif.: Aero Publishers, 1963.
16. Renzulli, "Tinteggiatur e Contrassegni dei Velivoli dell'Aviazione della Repubblica Sociale Italiana", Il Notazario, Part 1.
17. Renzulli, "Tinteggiatur e Contrassegni dei Velivoli

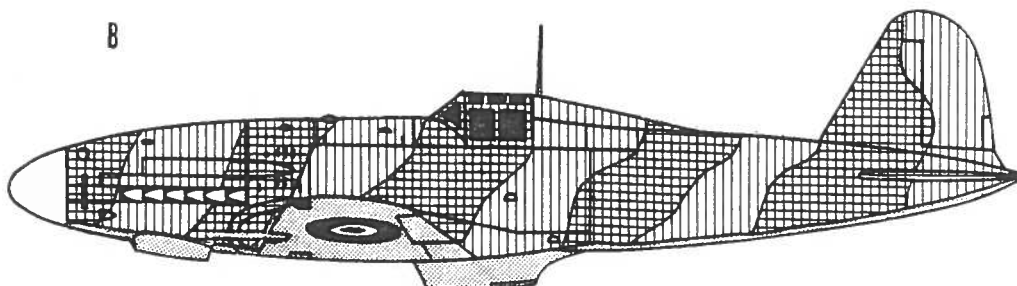
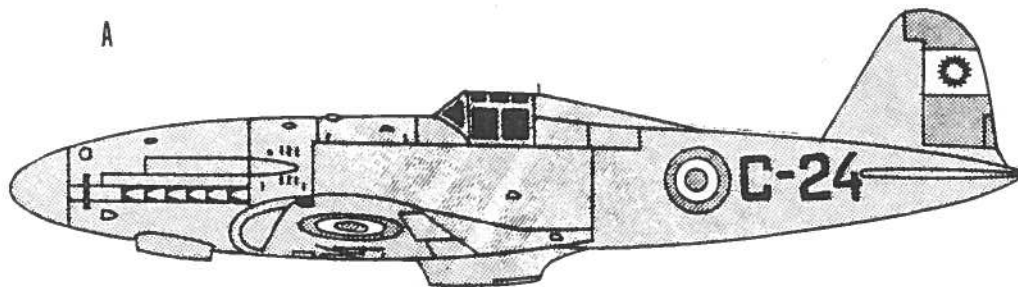
dell'Aviazione della Repubblica Sociale Italiana", Il Notazario, Part 2.  
18. Renzulli, "Fiat G.59", Il Notazario, Part. 1.

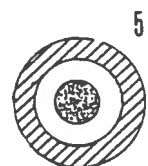
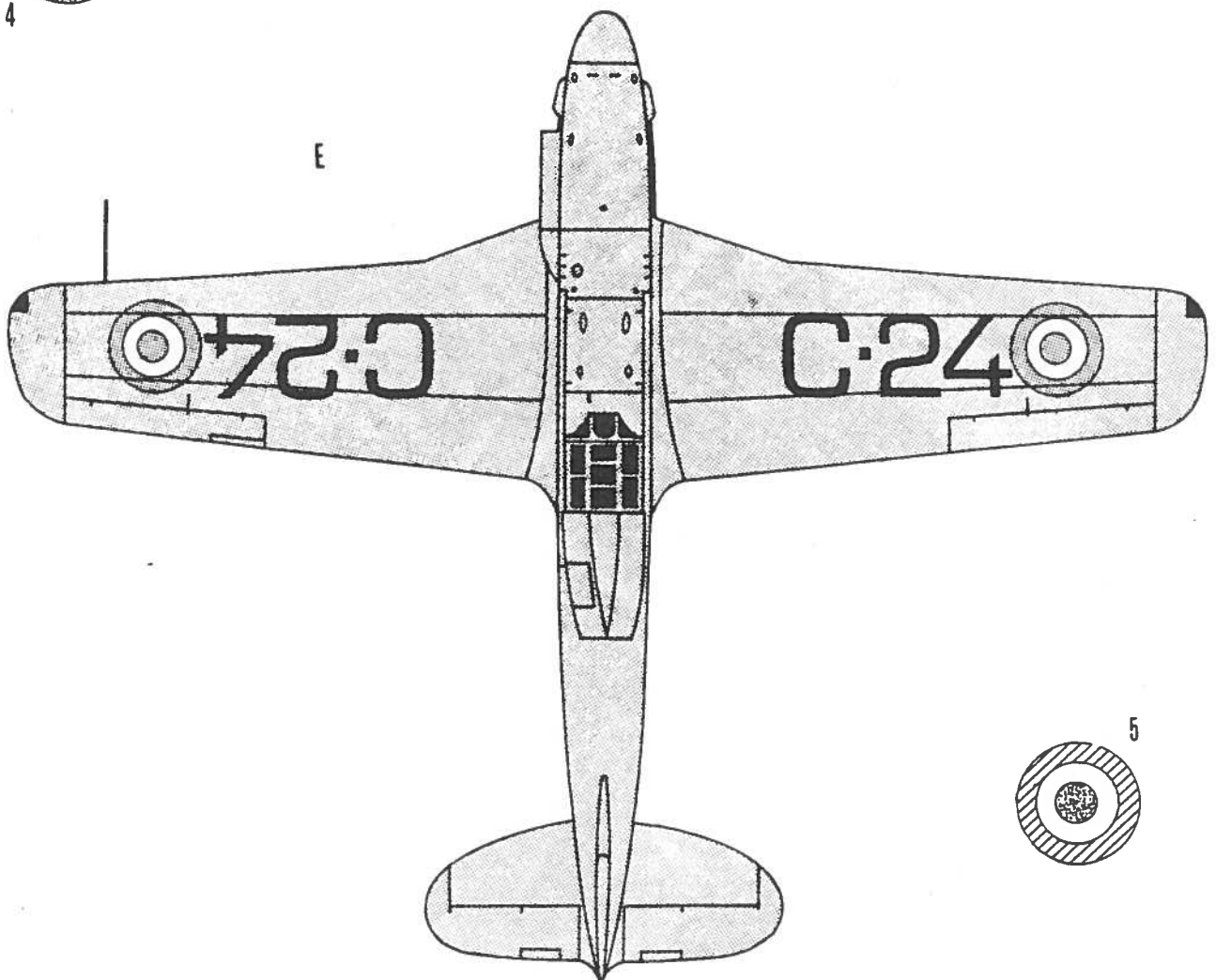
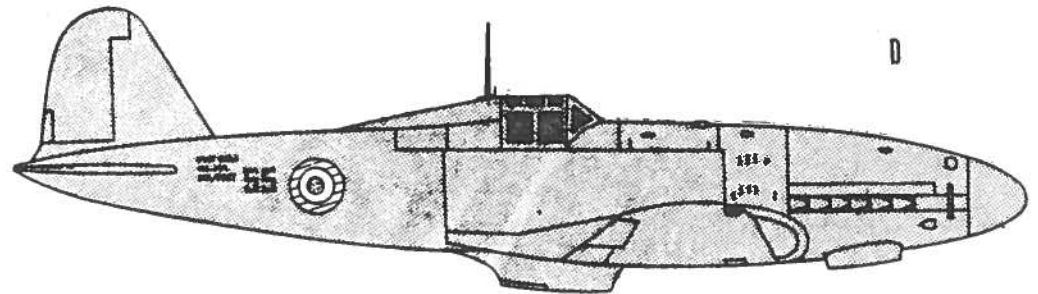
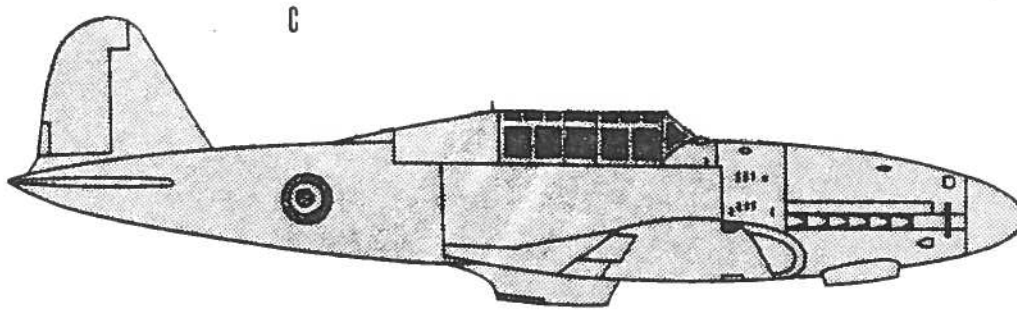
## DRAWINGS:

- A. Fiat G.55A "C-24", Fuerza Aerea Argentina, 1950. Machine based at El Plumerillo Air Force base. Overall aluminum paint, black codes. Ref. 1, p. 45.
- B. "Syrian" G.55A, 1950 (?). Delivery scheme. Damascus airport. Verde oliva scuro (cross-hatch pattern) and nicciola chair 4 upper surfaces. "Azure blue" under surfaces. Ref. 9, p. 140 (starboard views).
- C. Fiat G.55B. Royal Egyptian Air Force. 1948. Overall aluminum paint. Initial delivery colors, Italy. Ref. 9.
- D. Fiat G.55A. Aeronautica Militare Italiana. MM.91167/NC.144, No. 55, 1947. Overall aluminum paint. Ref. 9.
- E. Fiat G.55A "C-24", Fuerza Aerea Argentina, 1950. Overall aluminum paint. Black codes. Ref. 1, p. 45.

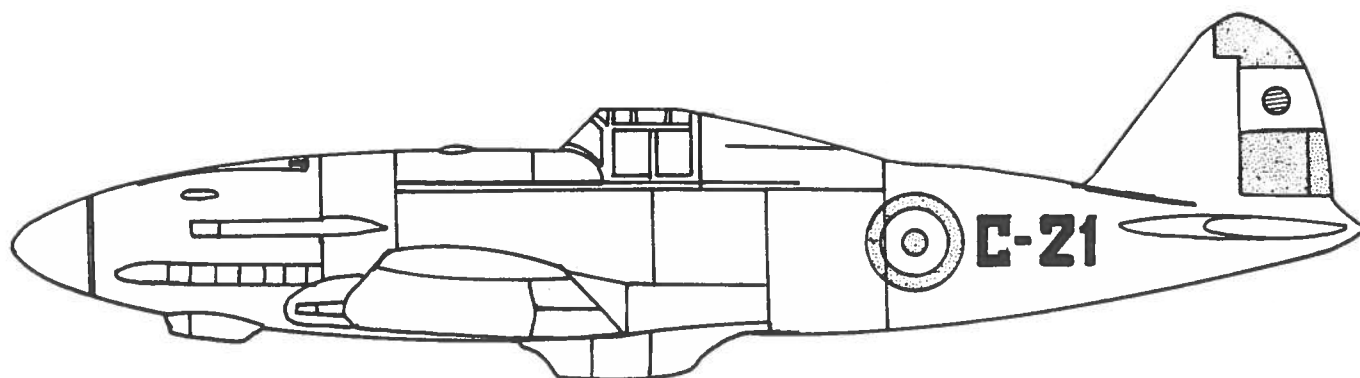


fiat/g55a



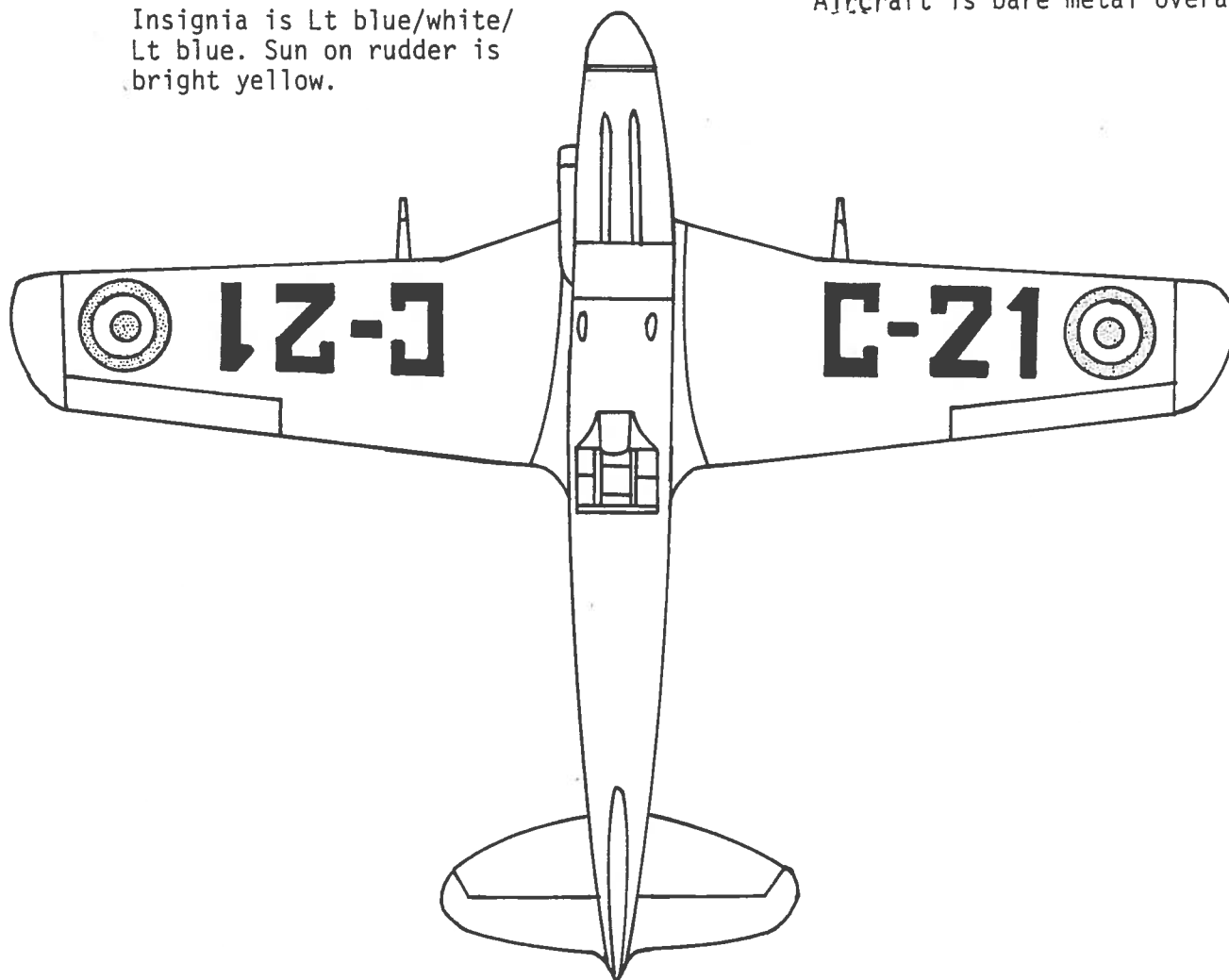


FIAT G-55 in Argentine Service.



Insignia is Lt blue/white/  
Lt blue. Sun on rudder is  
bright yellow.

Aircraft is bare metal overall.



Nick Waters (SAFCH #2)

# AUSTRALIA

APMA (Australian Plastic Modeller's Association, PO Box 51, Strathfield, N.S.W. 2135)

4 81 (24 pages) "Nomads: Plain & Fancy" 4 pages including side-view drawing of a/c of the Papua New Guinea Defence Force, Australian Army, Indonesian Navy, and Philippine AF. "Miles Aircraft of the RAF: Part 1 Miles Magister" 2 pages including 2 side-view drawings. "More Indonesian ..." 3 pages of drawings of the Beech T-34C, Short Skyvan, & A-4E. Side-view drawings of RAAF Proctor, Brewster Buffalo, & Mosquito. Photo of RAN Iriquois (sic).

1 82 (20 pages) "Army Turbo-Porter" 1/2 page of drawings Australian Army a/c. "Which Cat is That" 6 pages including 3 pages of drawings of A24-385, A24-359, & VH-WWC. "Miles Aircraft of the RAAF - Part 2" 2 pages including Falcon M3D Six A37-1 & Merlin M4 A37-2.

# AUSTRIA

OFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien)

1 82 (28 pages) "Hansa Brandenburg W.18" 6 pages including 4 pages of 1/72-scale drawings. "Alpenfliegerschule" 15 pages including 4 pages of 3-view drawings (Zlin 126, Piaggio 149, Cessna L-19A & L-19E) and 9 photos (Saab 91, Cessna 182, Fouga Magister, Saab 105, Yak 18 & 11, Cessna L-19, LT-6G Texan, Saab 17). "Lebenslauf der DC-3 OE-LBD der Austrian Airlines" 4 pages including a page of side-view drawings and 2 photos.

PANORAMA (IPMS/AUSTRIA, Nordmannngasse 11-13/4/6, A-1210 Wien)

5-6 81 (52 pages) "Texan-Harvard" 9 pages including side-view drawings of a/c of Mexico, New Zealand, Austria, Congo, Biafra, Dominican Republic, USSR, Laos, Iran, Belgium, & Brazil; photos of a/c of Austria 4C-TA & -TJ, Biafra (unmarked), Brazil (Esquadriha Fumaca), Congo AT-827, Belgium H210, & SAAF 7072, 7082, 7385, & 7028 (in-flight, color). "Die Jets des Artem Iwanowitsch Mikojan: MiG-15" 11 pages including 3 pages of 1/72-scale drawings, 10 side-view drawings of a/c in Czechoslovakian AF markings, and 8 photos of a/c and details.

# BELGIUM

KIT (IPMS Belgium, Rue des Eburons 35, 1040 Bruxelles; 4 issues for 400 Belgian francs.)

# BRAZIL

SOUTH AMERICAN AVIATION NEWS (Caixa Postal 5216, 09720 Rudge Ramos, Sao Paulo; 6 issues for \$7.00; back issues US \$2.00 each.)

Nothing received since #31.

# CANADA

HIGH FLIGHT (Box 393, Stittsville, Ontario K0A 3G0; 6 issues for CAN \$15)

2 2 (40 pages) "Chronology 1926" 9 photos (Vickers Vedette, Varuna & Viking, Avro 552 & 504K, Siskin). "Lend-Lease Frustration" 11 pages including 22 photos and 2 pages of 1/48-scale drawings of RCAF Stearman PT-27.

RANDOM THOUGHTS (IPMS CANADA, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for \$12.00 in US, \$13.00 others)

5 81 (24 pages) Dehavilland Chipmunk" 12 pages including 5 pages of drawings of Canadian a/c and 22 photos of details. "CF-116 in Experimental Camouflage" 2 pages of drawings illustrating a wrap-around, 3-tone grey scheme and a sand, green, & brown finish (both with FS595 equivalents).

6 81 (24 pages) "The RCAF Neptune - Update" 3 pages including 2 photos and a/c histories. "Cadena" 3 pages including 6 side-view drawings of the He.51 in the Spanish Civil War. 3 photos of RCAF Avengers.

# ENGLAND

MAGAZINE (IPMS ENGLAND, Flat 4, 18 Delancey St., Lon-

don NW1 7NH; 6 issues for US \$20.00)

1/2 82 (28 pages) "Saab 35 Draken - Part 2" 8 pages including 8 photos and 4 pages of 1/72-scale, 3-view drawings (Swedish J35F, Finnish 35S, Danish F-35 & TF-35). "Sopwith Swallow" 6 pages with photos and drawings on building a 1/28 scale model.

MILITARY AVIATION REVIEW (East Cliff, Stotfield Rd., Lossiemouth, Moray IV31 6QT, Scotland; 6 issues for \$10.20)

2/3 82 (48 pages) Photos: Yugoslav Mystere 50 (72101); RAAF Tigermoth (A7-76), Beaufort (A9-626), Spitfire V (A58-105), & Stinson SR-10 (A38-1); Brazilian AF EMB-312 YT-27 (1300), Piper Seneca II U-7A (2631), Bandeirante SC-95B (6542) & EC-95 (2178), DHC Buffalo C-115 (2360); West German Lynx (83+03). "Irish Two-Seat Spitfires" 3 pages including 5 photos and a/c histories.

4/5 82 (48 pages) "A History of the Turkish Air Force; Part Two - A Striking Force (1952-1963)" 6 pages including 19 photos (Miles Magister 5003, Spitfire IX, Douglas B-26B CL-05, P-47D Ti-29, Mosquito 52, AT-11 33, THK Ugur 5106, F-84G FS-964-A, T-33AN 21309, T-6G 83, T-34A OK-03, AT-11 84, C-47 CBK-04, C-54 ETI-581, RT-33A, Beech 18S 6938, F-86E 103, Lysander 3106, F-100F 63997). "A Selection of Belgian AF Meteors" 8 photos (T.7 ED-37; F.8 EG-78, EG-79, EG-91; F.8 EG-73/7J-G, EG-64/7J-B, EG-70/7J-H; F(TT).8 EG-208/B2-T, F.4 EF-31, F.8 EG-46/S2-L, F.8 EG-234/GE-A, NF.11 EN-3/KT-G).

# FINLAND

MALLARI (IPMS FINLAND, PL 798, SF-00101 Helsinki 10) Nothing received since #37.

# FRANCE

LA VITRINE DU MAQUETTISTE (IPMS FRANCE, 3 rue de l'Amiral Roussin 75015 Paris; 4 issues 45FF surface, 60FF air; back issues 12FF; "La Lettre de l'IPMS" 25FF.)

#14 (32 pages) "Le Mirage F1 de Heller au 1/72 eme" 4 pages with photos and drawings to correct kit. "sur les bords de la Mer Noire ... les IAR 80 et 81" 10 pages including 14 photos and 4 pages of excellent drawings. "Un Storch francais" 3 pages including 5 photos and 2 pages of 1/73-scale drawings of MS 502 Criquet.

# GERMANY

MITTEILUNGEN (IPMS GERMANY, Oertzenweg 12b, 1000 Berlin 37; DM 42.00 Europe, DM 49.00 USA, DM 55.00 Japan, DM 61.00 Australia)

3-82 (30 pages) 3-view drawing of Kondor D 6.

4-82 (30 pages) Nothing of small air force interest.

5-82 (30 pages) "FW 190 V1" 12 pages including 5 pages of 1/72-scale drawings for converting the MATCHBOX FW 190 A-3 into a FW 190 V1.

6-82 (30 pages) Nothing of small air force interest.

# ITALY

IL NOTIZIARIO (IPMS ITALY, CP 182, 41100 Modena Ferravia)

Vol. 12, No. 3/4 1981 (30 pages) "Ro.37" 8 pages including 5 photos of interior, 1 color photo, one page 1/72-scale 3-view drawing, and several drawings of interior and details. "Nieuport 17" 7 pages including 8 photos, 7 side-view drawings, & one of drawings of details (all Italian machines).

JP-4 (CP 1550, 50100 Firenze)

12-81 (100 pages) Photos: Gabon AF EMB.111 Bandeirante TF-KNC (color), Burundi SF.260W no marking (color), Swiss Pilatus P-2 U-103, UN Sabre 19695, Israeli Sabre. SIAI S.74/PX photo I-URBE & 3-view drawing. SIAI S.71 photo I-ROMA & 3-view drawing.

1-82 (8 pages) Photos: Peru MB.339 "477" (color), Yugoslav CL-215 "225", Cuban MiG-23MB, Libyan MiG-23 (color). "Aeroplani Tedeschi in Russia dal 1930 al 1941 - Part 2" 5 pages including 13 photos (He 51, Hs 126, FW 189, FW 190A & 190D-9 (3), Me 109G-2/R6 (2), Me 262, He 162, Me 163 (2)) and color side-view drawings of Me 163 & Me 262 (all in Soviet markings). "F/RF-84F" color photo

of Turkish "7044" and color side-view drawings of one Belgian and 3 Italian a/c.

2-82 (88 pages) Photos: Libyan Falcon 20 F "5A-DAF & 5A-7", Zaire C-130H "9T-CTF" (color), Libyan SU-22 (color), El Salvador Super Mystere(?). "I 339 alla P.A.N." 2 color photos.

3-82 (88 pages) Photos: Uruguay CASA C.212 634 (color) and Yak-36 (color). "F-5G Tigershark" 12 pages including photos of Swiss F-5E J-3002, Saudi Arabia F-5E, & Thailand F-5F 61612, and a complete list of all F-5 sales (32 different countries other than the USA). "Macchi MC200" 3 pages including 5 side-view color drawings of Italian machines, and a 1/72-scale, three-view drawing.

#### NEW ZEALAND

SCALE DIMENSIONS (IPMS NEW ZEALAND, 72 Walworth Ave., Pakuranga, Auckland)

Nothing received since April '81.

#### NORWAY

LIMTUBEN (IPMS NORWAY, c/o K. Haugen-Nes, Postboks 273, 2050 Jessheim, NORWAY; 4 issues for \$9.00.)

Nothing received since 1 '81.

#### SOUTH AFRICA

AFRICAN AIR REVIEW (AVIATION SOCIETY OF AFRICA, PO Box 1413, Alberton 1450; 6 issues for R11-00)

11/12 81 (16 pages) Photos: Malawi Air Wing HS.125-700 MAAW-J1, SAAF Harvard 7111 & Puma 133. "Aircraft of the SAAF: The DH-9" 2 pages takes the story up to 1926 (to be continued) and describes early SAAF insignia: "During December 1920, a Ministerial decision was taken to introduce a new national insignia for the SAAF to replace

"German magazines include very little information on the small air forces. However, some German books contain photos of interest to the SAFO readers:

FOTO-ARCHIV Vol. 3: Ju 52/3m PP-CBB; Bu 133 HB-MIB. Vol. 4: Offag K flying boat K423 Austria-Hungary; CASA 1.131 E.3B.177 Spain; Bf 109E 65 Rumania; Dewoitine D 26 HB-RAG. Vol. 5: Albatros D III 153.31 Austria-Hungary. Vol. 6: Bf 109E 6.91 Condor Legion; Albatros D II 53.06 and D III 153.112 Austria-Hungary. Vol. 7: Arado Ar 95 Condor Legion. Vol. 8: Offag CF 50.14 Austria-Hungary; Fw 56 124 Hungary.

MARKINGS AND CAMOUFLAGE SYSTEMS OF LUFTWAFFE AIRCRAFT IN WORLD WAR TWO, Vol. IV, Ries: Bf 108B 5, Bf 109E 3 & 9 Bulgaria.

DORA KURFURST UND DIE ROTE 13, Ries. Vol. 1: Aero A-38 OK-A.; LWS 6 Poland; Avia B-534 H1, H6, etc. Czechoslovakia; Avia B-534 Slovakia; Ju 52/3m, Bf 108B 44.4, Fi 156 46.5, He 126 19.7, Hs 123 24.7, He 70, He 111E 25.46, Do 17, Bf 109 6.56, 6.51, 6.42, He 51 2.111, 2.59 Condor Legion; He 112, Breguet XIX 10.155, DH 89 Spanish Nationalist. Vol. 2: Junkers W 34 43.5, He 51 2.89, Bf 109, Hs 123, Ju 87B, Ju 86E, He 111 25.6, 25.46, He 45 15.10, 15.20, 15.32, He 70 14.34, Do 17 27.1, 27.4, Ju 52/3m 22.102, Fi 156 46.1, Bf 108B 44.4 Condor Legion; I-16 33, Breguet XIX 2E-10 captured Spanish Republican; General A/C ST 12, Vultee V-1A 18.6, Farman 190 30.5, Aero A 100 17.20, Spanish Nationalist; PZL P.11c, P.37, P.38, LWS 6, Bartel M.4, RWD 15 Poland; Bu 131 Yugoslavia. Vol. 3: He 112 Rumania; Ju 88A-5 9 Hungary; He 45 15.21, Do 17 27.28 Condor Legion; Ju 90 Iraq; He 114 Rumania; Letov S-328 5 Bulgaria; PZL P.11 3 Poland; Gladiator Norway; Potez XXV Greece. Vol. 4: Bf 109 6.53, Ju 87A, Ju 87B, Ju 52/3m 22.79 Condor Legion; Bf 109G V3+7Z Hungary; Hs 129, Ju 87D 34a, He 114B 9 Rumania; Ju 352 Soviet; Ju 52/3m SE-AFB.

DIE VERBOTENEN FLUGZEUGE, Nowarra. Albatros D III "Mopsi" Czechoslovakia; Van Berkel W 12 W61 Netherlands; Do Wal M-MWAA Spain; Junkers F 13 Persia; Junkers R 42L S-AABF Sweden; Rohrbach Ro IIIa Turkey; Junkers K 43 JU-123 Finland; Junkers W 34 403 Columbia; Junkers K 53L S-72 and Junkers K 53W S-AABB Sweden; Do D (without markings) Yugoslavia; Junkers K 37 S-AABP Sweden; He 8 96 Denmark; HD 16L 21, HD 16W 20, HD 19W 281 Sweden; Do P

the RAF markings then in use. The roundel was to consist of four colors which, from the centre, were orange, green, red, and blue and there were to be corresponding rudder stripes. It would seem that these colours were used until December 1921 when it was decided to change them on the grounds of poor visibility. From the centre these then became village green, red, lemon yellow, and blue and the rudder stripes were changed accordingly. These colours were implemented during 1922 and remained in force for almost five years."

#### SWITZERLAND

VIRUS PLATICUS (IPMS SWITZERLAND, Olivenstr. 2, 9320, Arborn; 4 issues for Sfr 24)

1/82 (27 pages) "DH-112 Venon, Part 2" 5 pages including a 2-page, 4-view drawing of J-1770.

#### USA

DIRTY PLASTIC (IPMS PHOENIX, 509 W. Camino Dr., Phoenix, AZ 85021; 4 issues for \$6.00.)

Spring 82 (20 pages) "F-86E & RF-86F" side-view drawings of a/c in the markings of Turkey (2), Japan (2), South Korea (2), Argentina, Belgium, Bolivia, Burma, Chile, China, Ethiopia, Iraq, Norway, Peru, Pakistan, Philippines, Portugal, Saudi Arabia, South Africa, Spain, Thailand, Tunisia, USSR, Venezuela, & Honduras (2). About the latter, the artist says: "I am not really happy with the two Honduras profiles. Although my source for it is usually very reliable I think she was really seeing the Dassault Mystere fighters lately purchased by Honduras." Side-view drawing of Spanish Do-24T. "Reggiane Re-2005" 7 pages including history, modeling instructions, and 2 pages of drawings of a/c in Italian, RSI, and German markings.

CH-302 Switzerland; Ju 52/3mW 621, Do C II Columbia; Do Y HB-GOE for Yugoslavia; Fw 44 5-80 Sweden; Aero A 42 Czechoslovakia; Do Wal D21 Netherlands; He 66 (without markings) for China.

DIE K.U.K. LUFTSCHIFFER- UND FLIEGERTRUPPE OSTERREICH-UNGARNS, Peter. The whole story of the Imperial Austria-Hungarian military aviation with many photos from the beginning of aviation in that country until the end of 1919.

OSTERREICHS LUFTFAHRZEUGE, Keimel. The story of Austrian aviation from the beginning till 1919 describes more than 266 aircraft.

FIESELER Fi 156 STORCH, Piealkiewicz. 46.1 Condor Legion; ST-112 Finland; three photos of Swedish AF Fi 156; A-96 Switzerland. From the text: Yugoslavia - at least 36 Fi 156 in service in April 1941; 24 in use with liaison wing of the General Staff. Sweden - first evaluation in summer 1938; delivery of further 6 in spring 1940; service with recce wing F3; in June 1941 order for further 12 which were delivered in June 1943; altogether 20 serialised 3801-3820. Slovakia - on order 17 a/c; delivery of three in November 1942, of two in August 1943; altogether 12 delivered. Rumania - one ordered in November 1942 for personal use of Marshal Antonescu; order of five in February 1943 refused; delivery of one to the Admiralty in June 1943, followed by 45 for service with liaison wings No. 111, 113, 114, & 115. Hungary - delivery of 4 of 5 ordered in March 1943; of an order of 15, 10 were delivered with two each month from March to July 1943. Spain - 20 ordered in summer 1943; delivery started with 10 in August 1943 followed by 6 in January 1944. Bulgaria - delivery of 12 in June/July 1943, followed by 4 in August and last delivery of one in January 1944. Switzerland - one civil example and 2 ex-Luftwaffe a/c which landed on Swiss soil and were impressed.

DIE Ju 52 IM ZWEITEN WELTKRIEG, Piekalkiewicz. Photos: 22.102 Condor Legion, one example for SAAF.

DIE Ju 88, Nowarra. Photos: JK-251, JK-267, JK-266 Finland; 111 Rumania; 13.6 Spain.

Bf 110, Held & Nauroth. Bloch MB 200 Bulgaria.

DIE DEUTSCHE TAGJAGD, Held. He 51 2.5, Bf 109 6.88, 6.91 Condor Legion.

Continued on page 111



# Saab 91 Sapphire

## A Gem of a Trainer

(Editor's note: This article originally appeared in PRI-FLY, the IPMS/DC chapter publication, and is reprinted here with the gracious permission of their editor.)

The Saab 91 Safir (Sapphire) primary trainer first flew just six months after the end of World War II. Since then, 320 SAFirs have seen service with six air forces, and a number of major airlines as pilot trainers, light attack aircraft, and flying testbeds. Many of them are still airworthy. The Saab 91 was built in four variants, with engine changes and seating rearrangements being the primary differences between models. The 91A, B, and C versions have served with both the Swedish "Flygvapnet" and the Imperial Ethiopian Air Force. Norway's "Kgl. Norske Flyvapnet" has operated the 91B, and the final variant, the Saab 91D, has been used with the "Armee de l'Air Tunisienne" (Tunisia), the "Ilmavoimien" (Finland), and the "Osterreichischen Luftstreitkrafte" (Austria).

Heller have recently issued a kit to 1/72 scale of the Saab Safir, and a gem of a kit it is. Only 21 part cast in a nice deep yellow plastic, and a clear (but-too-thick) canopy, make up the kit. The plane is surprisingly small, and the molding is correspondingly petite all around, with delicate prop, landing gear, and trailing edges. The rudder even has the correct offset molded in. The well done interior is outfitted in the 3-place configuration of the 91B. Some small, dust-like imperfections mar the wing surfaces, probably the result of poor mold polishing. A small fin fillet should be added as shown on the instructions; only some light flash appears in its location on the kit.

A camouflaged Swedish example and a yellow Norwegian one, both featuring prominent day-glo orange areas, can be completed using the attractive decal sheet provided. An alternate Norwegian scheme is shown on page 91 of reference 5. This 91B is depicted in an overall rosy-orange shade similar to FS 22356. It is probably a representation of faded day-glo orange. The black coding AZ-U is carried on the fuselage sides, with the serial 7345 in black on the fin, and a white fin tip above the antenna lead. Black wing walks and anti-glare panel are the same as shown in the kit instructions, but no individual a/c letter appears on the cowl flap, and no fin fillet is noted in the artwork.

The schemes shown in the accompanying drawings are for Saab 91C's and 91D's, which means the kit interior will have to be modified to a 4-seat configuration. Small exhaust fairings should be added to each side of the cowl as indicated for 91D's. Additionally, large spinners will have to be added to models of these variants. Note that the cowl front is notched to accept the sizable spinner of the 91D. Also note the sunshade strung across the inside of the canopy, and the inboard position on the wing insignia, features common to most Safirs.

1) The Austrian example sports an overall yellow finish with bright day-glo orange trim. Red/white Austrian insignia are marked in six positions, with black fuselage

coding, data block, fin serial (456), prop, anti-glare panel, and wing walks. White avionics antennae are carried as shown, and don't miss the red rotating beacon on the fin tip. A second Austrian Safir, coded 3F-SM, is nearly identical to the above aircraft, but it lacks the large blade antenna.

2) Some Finnish 91D's are overall silver with day-glo orange trim and black coding, props, wing walks, and anti-glare panels, as exemplified by this drawing of SF-5. Finnish white/light-blue/white roundels are flown in six positions; all roundels are thinly outlined in black. A dark grey avionics bulge is carried just abaft the cockpit. Another similar aircraft is SF-8, the only difference being that the orange tail color does not appear on the fuselage at all, only on the fin and stabilizer. Three other aircraft in the same line-up are SF-33, -34, and -36, all finished like SF-8 without orange on the rear fuselage. These three aircraft do not carry the large bulge, but have the small fairing as molded into the kit. The two digits of the code appear one each on the fin and rudder, in the same style and size illustrated. These Finnish Safirs all sport chrome-plated spinners.

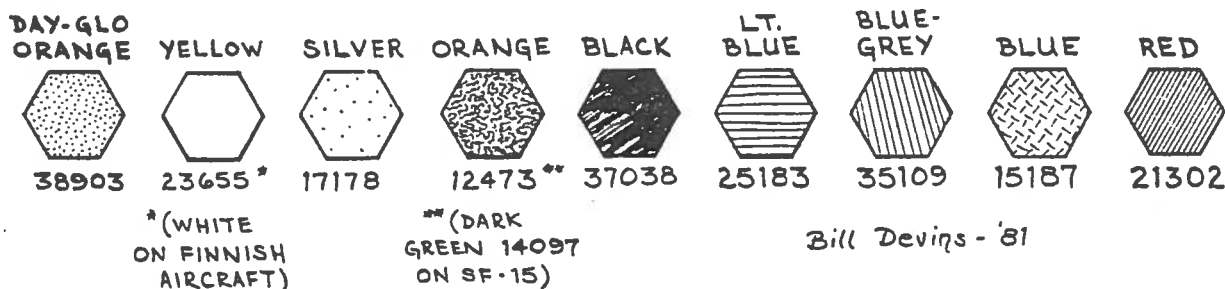
3) Three other Finnish Safir D's are represented by this drawing. SF-16 is shown, finished in overall silver with orange (not day-glo) trim on the nose, fuselage, and flying surface tips. Another aircraft, SF-15, is identical except for the trim color which is a dark forest green (FS 14097). SF-1 is trimmed in black and carries an un-outlined yellow "1" on the rudder, about three-quarters the size of the numerals on SF-5. All three of these Saabs have the dark grey avionics bulge. Note that the wing insignia are smaller and are positioned further outboard than those on the above Finnish aircraft. The roundels are thinly outlined in black.

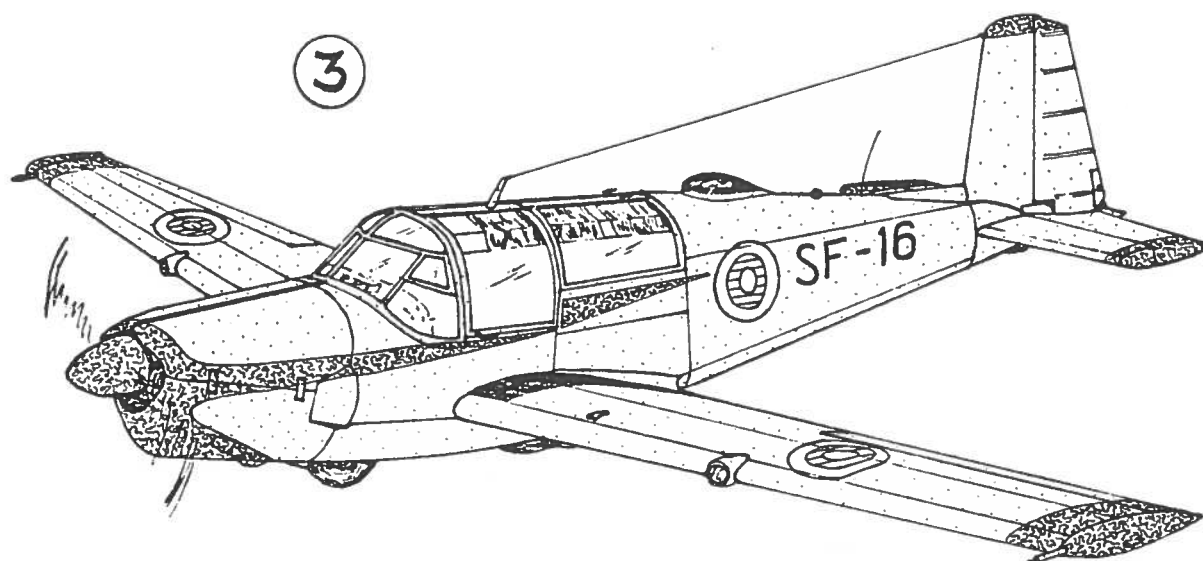
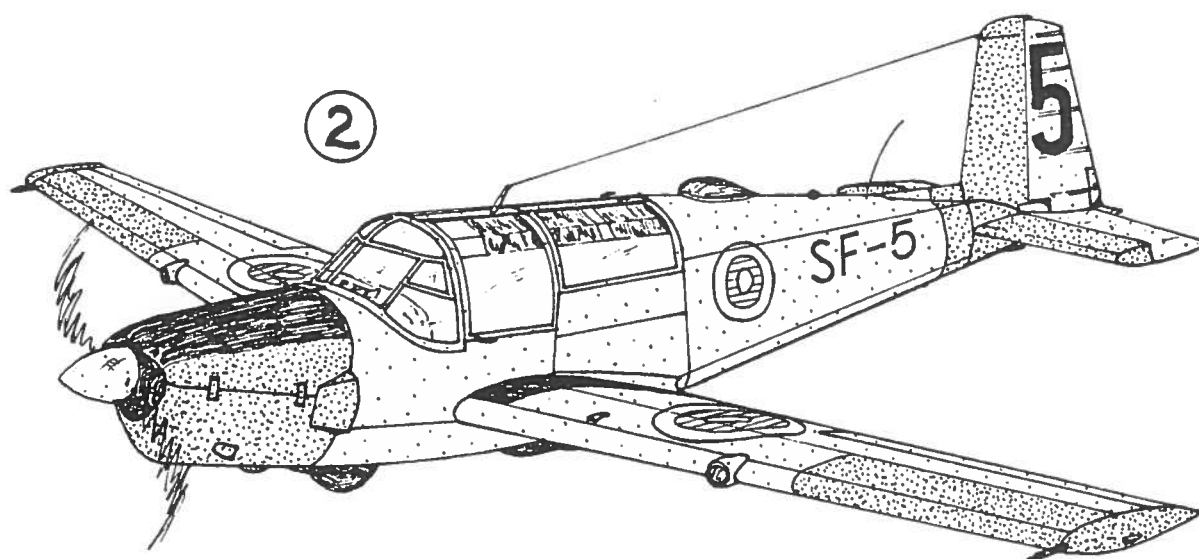
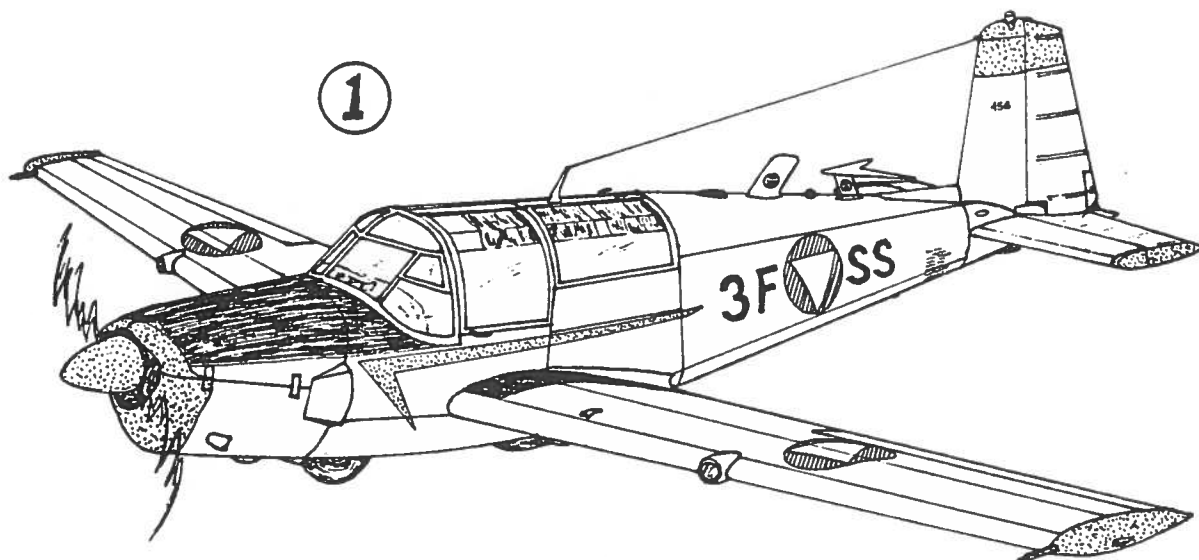
4) This Swedish example is a four-seat Sk 50C with no spinner and the exhaust arrangement provided in the kit. The machine is yellow overall with a dark blue-grey anti-glare panel, and a black "8" and serial "S008T" on the rear fuselage. The prop is silver, and the wing walks and pitot tubes are black. The crowns in the insignia are the same yellow as the airframe, and they are individually outlined in black. The blue roundels themselves are un-outlined.

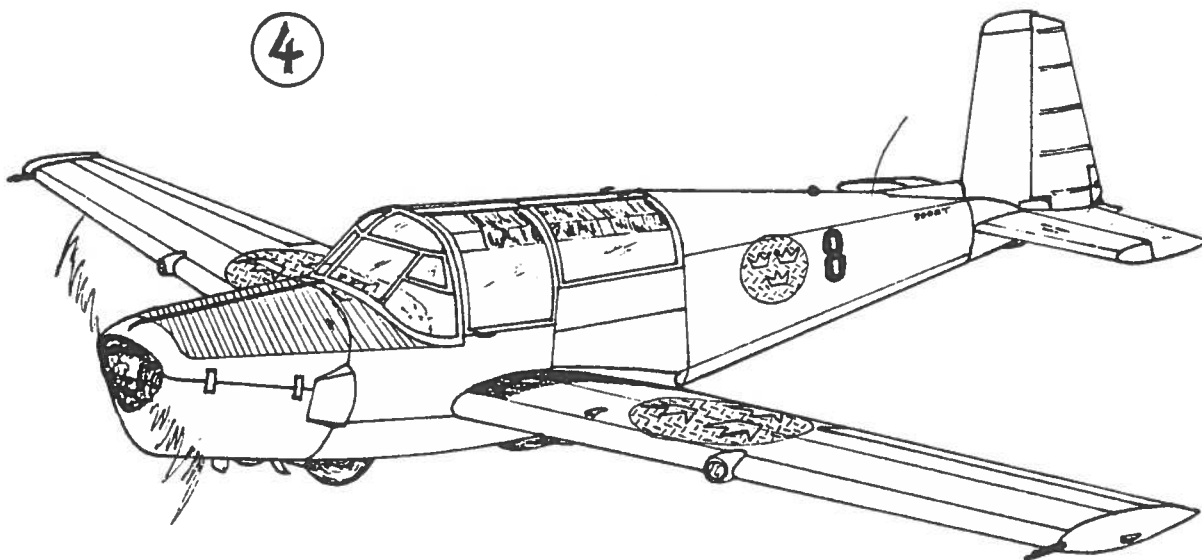
### References:

1. AIR INTERNATIONAL, Vol. 14, No. 4, April 1978.
2. AIR INTERNATIONAL, Vol. 15, No. 5, November 1978.
3. Keskinen, FINNISH AIR FORCE AIRCRAFT 1939-1972, Tietoteos, Helsinki, 1975.
4. LE FANATIQUE DE L'AVIATION, No. 129, August 1980.
5. Munson, POCKET ENCYCLOPEDIA OF WORLD AIRCRAFT - FIGHTERS, Macmillan, New York, 1966.

Bill Devins (SAFCH #557), 55 Small Ave., Caldwell, NJ 07006.







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# GERMAN BOOKS

Continued from page 108

STUKAS, JABOS, SCHLACHTFLIEGER, Aders & Held. He 51 2.73, Hs 123 24.5, Ju 87B 29.5, 29.22 Condor Legion; He 112 Nationalist Spain; Do 17M B+G Bulgaria.

THE MESSERSCHMITT 109 A FAMOUS FIGHTER, Nowarra. Bf 109 6.15, 6.56, 6.117 Condor Legion; MT-203, MT-507, MT-210, MT-501 Finland; J-313, J-353 Switzerland; 65 Rumania; crated 109s for Yugoslavia; BF 109G Hungary; Avia C-10 OK-BYH; C-210C trainer Czechoslovakia; C-210 Israel; C-210 IF-01, UC-100, KT-3 Czechoslovakia; HA 1109 and HA 1112 71.5, 71.8, C4-172, 7.35 Spain.

DAS BUCH DER DEUTSCHEN LUFTFAHRTTECHNIK (PHOTO VOLUME), Lange. Photos of Sablatnig P III CH-54 Switzerland; Do Wal M-MWAP Spain; Do 22 N20 Greece; Do 24 X-1 Netherlands; Fw 44 OE-TGS Austria; Fw 58 Bulgaria; Gotha Go 145 530 to 537 Austria; He 8 98 Denmark; HD 16L 21, HD 16W 20, HD 19W 281 Sweden; He 111 25.63 Condor Legion; He 115 21 Sweden; Junkers F 13 O-BACC Belgium, VH-AEC New Guinea; Junkers K 16 L-BACA Czechoslovakia; Junkers G 24 S-AAAK, S-501, SE-AAF Sweden; Junkers K 30 S-505 Sweden; Junkers G 31 A46 Austria, VH-UOV New Guinea; Junkers W 34 ZS-AEB South Africa, VH-UOX New Guinea; Junkers K 43 JU-123 Finland, "Bolivar" Bolivia; Junkers K 53 S-72 Sweden; Junkers K 37 S-AABP Sweden; Ju 52/3m Boliva; SE-AFC Sweden, Argentine and Polish civil a/c; Ju 86 ZS-AGJ South Africa, HB-IXA Switzerland, 2 Sweden; Kl 35 Sweden; Messerschmitt M 18 CH-191 Switzerland; M 36 YR-ACS Rumania; Bf 109E Switzerland; HA 1112 Spain; RK 9a CH-256 Switzerland; Junkers G 24 S-AAAT Sweden.

LEGION CONDOR, Ries & Ring. An excellent book not only of Legion Condor but the whole Spanish Civil War; it covers ground and air actions of both sides and a lot of photos of tanks, vehicles, guns and aircraft.

Photos: DH 89 "Capitan Vela", Ju 52/3m D-AMYM, 22.79,

M-CABA, M-CABE, M-CABO, D-AKYS, D-AVIA, 22.95, 22.82, 22.90, 22.94, 22.101; He 51 2.4, 2.24, 2.64, 2.85, 2.78, 2.98, 2.79, 2.76, 2.111; W 34 43.3; He 112 5.1, 8.2; Hs 123 24.4, 24.5, 24.7; He 70 14.33, 14.34, 14.40, 14.50; Bf 109 6.16, 6.4, 6.29, 6.60, 6.38, 6.36, 6.34, 6.7, 6.12, 6.32, 6.20, 6.51, 6.53, 6.52, 6.56, 6.98, 6.3, 6.103, 6.86, 6.60, 6.79; He 111 25.6, 25.7, 25.12, 25.14, 25.44, 25.1, 25.54, 25.46, 25.50, 25.30, 25.45, 25.15, 25.49, 25.17; Do 17 27.4, 27.25, 27.27, 27.21, 27.8; Ju 86 26.4; Do Wal 70.6; He 45 15.6, 15.20, 15.30; Ju 87A 29.2, 29.4; Fi 156 46.1, 46.2; Ar 68E 9.1; Hs 126 19.1; Bf 108B 44.4; He 46 11.151; Kl 32 30.65; Junkers G 24 D1230; He 60 WL-INQA; Ar 95 D-OHGV; He 50 D-I....

Nationalist a/c: Breguet XIX 2E-10; Miles M.3 30.55; Monocoupe 90A 30.59; SM 79 28.43; CR 32 3.13, 3.51, 3.5; SM 81 21.56; Ro 37 12.44; Spartan 7W 30.74; Vultee V.1A 43.12; Ro 41 7.7; RWD 13 30.4; plus the following without visible markings DH 89, Ju 52/3m, He 51, Breguet XIX, HS E30 (captioned as DH 4), Junkers W 34, General A/C ST 12, CR 32, I-15, SB 2, I 16, He 70, Bf 109, He 112, Hs 123, SM 81, PWS 10, He 111, Do 17, Ju 86, He 45, SM 79, He 79, Aero A 101, Ju 87A, Ju 87B, Lockheed 10, DC 2, Ca 100, Caudron C 59 (with partly overpainted French registration F-A...), Ba 65bis, Fi 156, R-5, Ca 310, Ar 68E, Hs 126, Bf 108B, He 46.

Republican a/c: I-15 CA-108, CA-223; I-16 33, SB-2 BK-069, Gil Pazo GP-1; E.G.-014; plus the following without visible markings, many after falling into Nationalist hands DH 89, Breguet XIX, Potez 54, I-15, SB-2, I-16, Letov S 231, R-5.

Paul Bezouska (SAFCH #34), Bachgasse 96, D-6944 Hemsbach, WEST GERMANY.

-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-

"I have recently purchased 1/72-scale models of the He 46D and Go 145 made from epoxy molded in resin casts. They are made by KPM (Czechoslovakia) and sold by Discount Hobbies, 165 Grove St., Bloomfield, NJ 07003.

"The casts are mostly in dark green plastic, but some of the smaller parts such as wheels, struts, props, etc., are in silver-grey. Although no plans are included, all necessary pieces come with the kit, unlike vacuform models. Since the fuselage casts are solid, the cockpit areas are only deep indentations in the mold, with insufficient room for great detailing. No decals are included, but details and accuracy are excellent.

"Discount also sells its own line of epoxy kits, called Scalemodel Diecasts, also in 1/72 scale.

"Here are some kits of Spanish Civil War a/c and their prices: Ro-37(in-line engine) by SD \$18.00; I-153

(I-15bis) by SD \$12.00; I-15 by SD \$16.00; Go 145 by KPM \$18.00; He 46D by KPM \$18.00; Arado 68E by KPM \$18.00; Polikarpov R-5 (vacuform) by KPM \$6.50.

"Discount also stocks hard-to-get kits such as the Revell(Brazil) I-16 and the Heller Amiot 143.

"Less obscure are vacuforms of the Ar 68E and Go 145 both for \$5.95 (add 15% for orders under \$20.00) in 1/72 scale from Wings 72/48, 3349 Woldridge Dr., Grand Rapids, MI 49505.

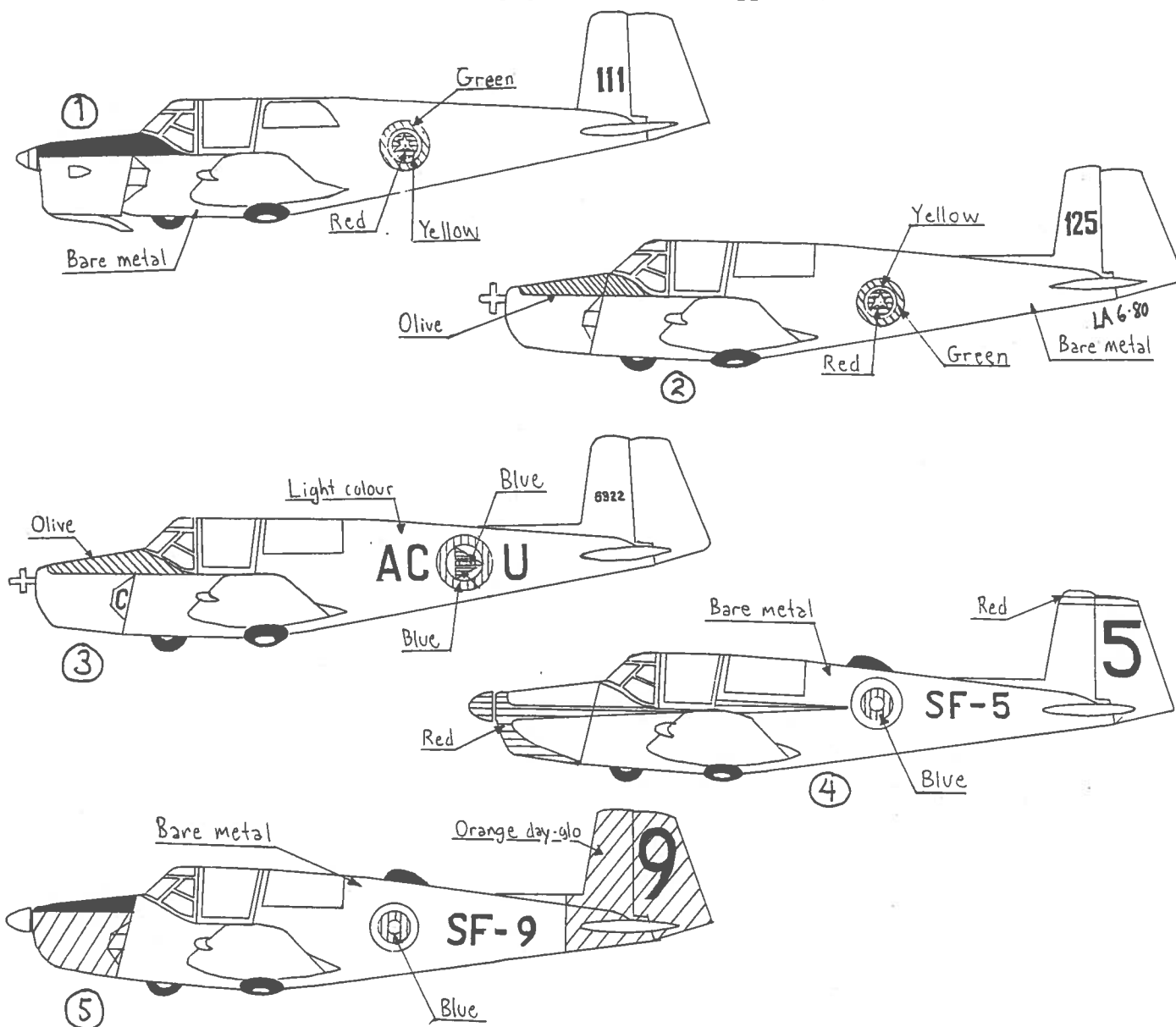
"Finally, there is a 1/72 model of an a/c used by the Republic which has so far been omitted: the vacuform Arne Andersson kit of the Miles Falcon @ \$5.50 from Discount Hobbies."

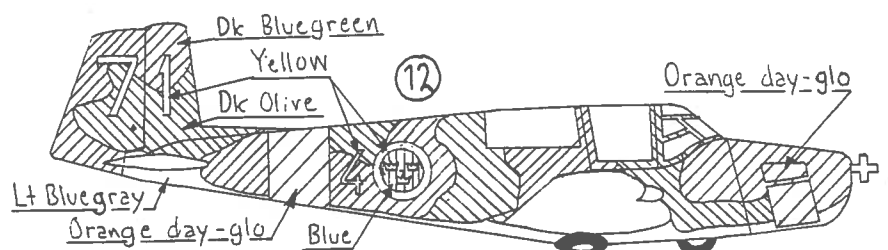
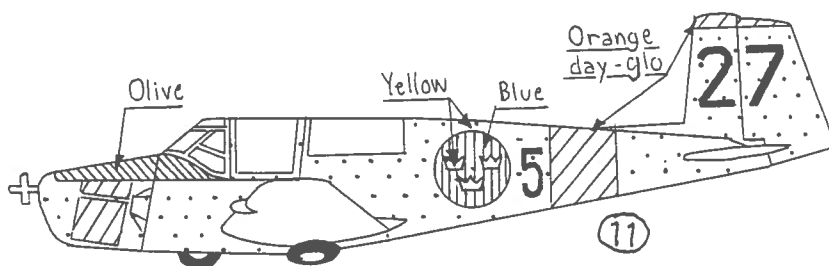
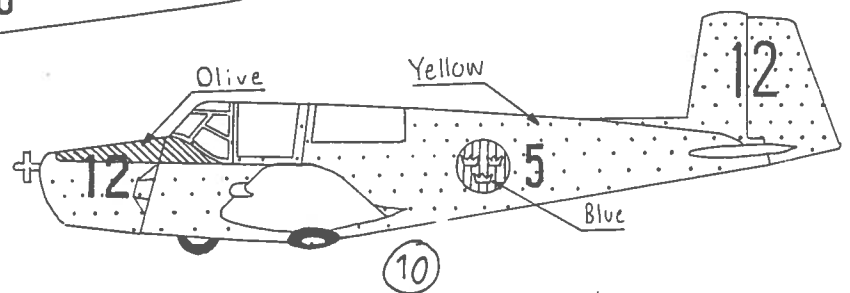
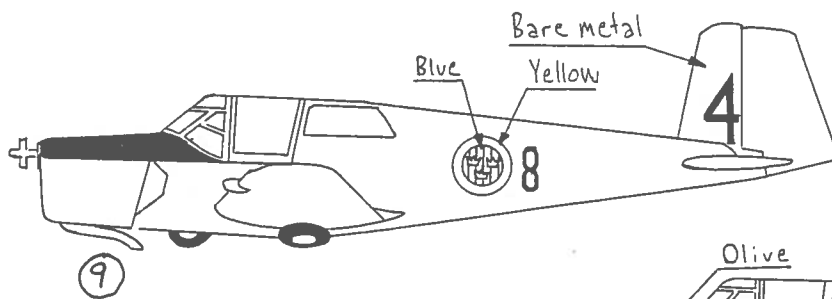
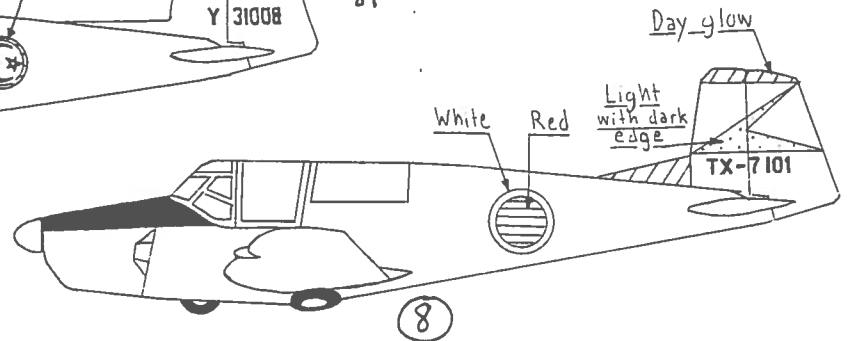
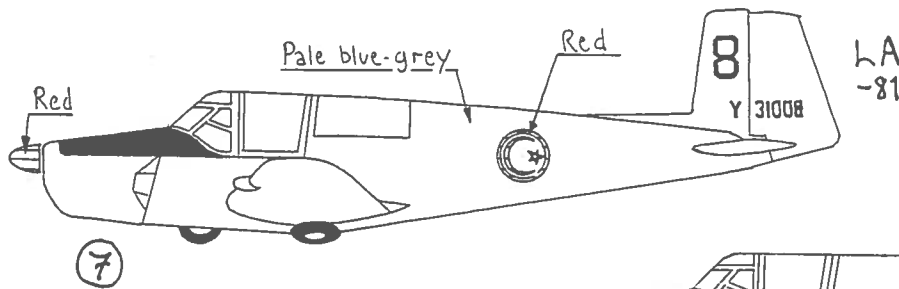
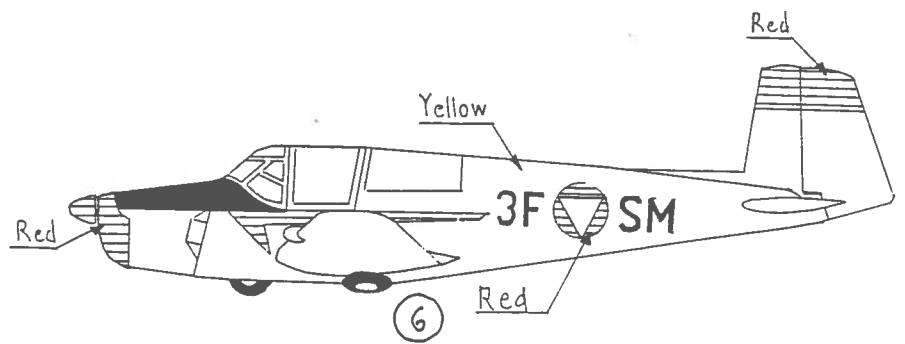
Tom Sarbaugh (SAFCH #497), 25 Roble Rd., Berkeley, CA 94705.

# THE SAAB 91 SAFIR

- 1) SAAB 91A '111', transport and liaison aircraft of the Imperial Ethiopian Air Force at Debra Zeit circa 1957. (Delivered 1948)
- 2) SAAB 91B '125'. (Delivered 1955)
- 3) SAAB 91B-2 'AC+U' of Norwegian Flygvapnet. (Delivered 1956)
- 4) SAAB 91C 'SF-5' of Finnish Ilmavoimat. (Delivered 1959)
- 5) SAAB 91C 'SF-9' in later paint scheme. (Delivered 1959)
- 6) SAAB 91D '3F+SM' of the Austrian Luftstreitkräfte. (Delivered 1964)
- 7) SAAB 91D '8/Y 31008' of the Armee de l'Air Tunisienne in November 1960. (Delivered 1960)
- 8) SAAB 91B 'TX-7101' experimental aircraft of Japanese Koku Jieitai (JASDF) in 1956. Designated X1G1 at first, then X1B2, and finally X2B after modifications. (Delivered 1953)
- 9) SAAB 91A '8-4- Tp 91 liaison aircraft of Flygvapnets wing F.8 circa 1948. (delivered 1947)
- 10) SAAB 91B '5-12' Sk 50B trainer of F.5. (Delivered 1952)
- 11) SAAB 91B '5-27' Sk 50B of F.5 in later scheme. (Delivered 1953)
- 12) SAAB 91B '4-71' Sk 50B liaison aircraft of F.4 in present camouflage, June 1976. (Same aircraft as in 10)

Lennart Andersson (SAFCH #68), Liljeg 9A, S-753-24 Uppsala, SWEDEN





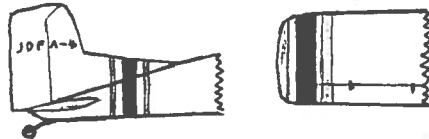


# AIR FORCE INSIGNIA

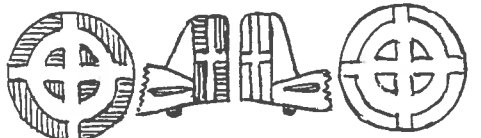
BY FRITZ BRAUN

To improve the efficiency of my contributions to the SAFO, I have decided to divide my insignia column into five sections: A) news, B) articles, C) problems, D) answers, & E) additions and corrections to articles that have appeared in the SAFO. All correspondence should be directed to Fritz Braun (SAFCH #220), Posener Strasse 20, D-8000 Munchen 81, WEST GERMANY.

## SECTION C)



Problem 15: JAMAICA. A b&w photo from MAP (List 39) shows a Cessna 185 "JDF A-4" with stripes around the rear fuselage and maybe on the tips of the wings. The colors are probably the national colors: green outside, then yellow, with black in the center. Could this have been the national insignia used before the well-known roundel? During what time period was this marking used?



left side

right side  
How colour sequence here?



red

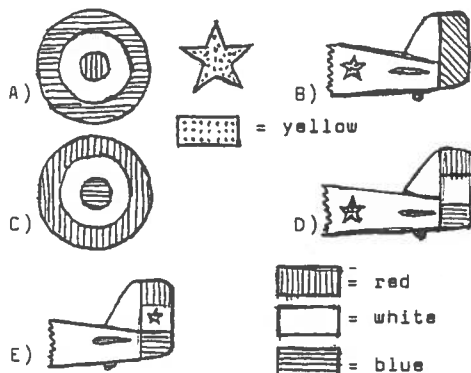


white



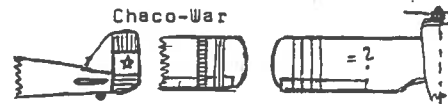
blue

Problem 16: DOMINICAN REPUBLIC. The fin flash depicted above was illustrated in AIRCAM #28 on a DH Mosquito. Did this form actually exist? Does anyone have photographic confirmation? When was the tail insignia deleted?



Problem 17: PARAGUAY. The drawings above are based on illustrations that appeared in books from 1935 and 1938. (A) Roundel in four wing positions, star on fuselage, and rudder unmarked. (B) Same as above, but with a green rudder. I have doubts about this one. (C) Colors of roundel reversed; used only on under surfaces of wings. Any other markings carried? (D) Same as (C), but in four wing positions with star on fuselage and rudder stripes. (E) Same as (D), but with star moved to rudder. Size of star varies with date. Can anyone confirm any of these insignia? During what time period was each used and on what type of aircraft? (F) The HANDBOOK OF THE AIR

FLEETS, published by Lehmann, Munich 1937, shows Potez 25s and Junkers types with wing insignia (A) and tail stripes (D). (G) Color illustrations in AIR ENTHUSIAST #2 show the markings illustrated below. What was the color sequence on the port wings of the Fiat CR.20bis, Potez 25, & Wibault 73c1? Were these stripes also carried on the upper wings? At what time were these stripes used?



Supplement to Problem 11 in SAFO #21: PAKISTAN. AIR FORCES OF THE WORLD by Hewish contains a color photo of a Breguet Atlantic in Pakistan Navy colors. The fin flash and fuselage roundel have thin yellow outlines. The Pakistan green/white roundel has a lighter shade of green than usual. Can anyone provide a good photo or details from official drawings?

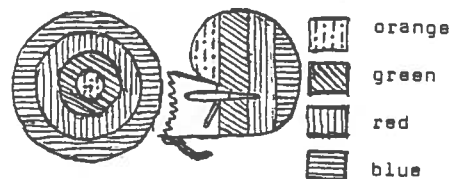
## SECTION D

Many thanks to all the members who provided the following answers to problems that appeared in SAFO #21.

Answer 1: GERMANY. The odd rectangular cross was the Norwegian flag (incorrect shape and proportion) applied in an attempt to mark the aircraft for 'export', thus preventing their destruction after the armistice. This scheme was a failure as the photo shows.

Answer 2: GERMANY. This WW I style Balkan cross on a white square was one of several 'pseudo insignia' applied for publicity purposes. Also seen were a white cross on a black square, and a black swastika on a 'standing' white square. All these creations were soon replaced by the official national insignia.

Answer 5: PANAMA. This insignia was used during the 1930s. The "R de P" (most probably in blue) stood for Republica de Panama.



orange

green

red

blue

Answer 9: SOUTH AFRICA. The colors were as illustrated. (Editor's note: See also comments in abstract section under South Africa.)

## SECTION E

Comments on articles in SAFO #21:

Ukrainian Air Force: There were two separate independent Ukrainian states during 1919-21, which had little in common with each other. These Ukrainian Air Forces used various types of aircraft, largely obsolete machines, but they did possess a few modern machines, including two or three R-Flugzeuge (Giant Aircraft). There were at least a half dozen different national insignia in Ukrainian use. My research into this subject has already occupied several years, and someday I hope to be able to publish a detailed account of this little known history. Patience please!

Argentine Naval Aviation: The anchor is not quite correct, being closer to the style used by the French Navy. The insignia of both countries have caused me many headaches, as numerous designs and variations have been used. Despite much research, further help from would be most welcome, particularly from our French members.

# Ukrainian Gotha GL VII

It is an almost unknown fact that aircraft of the Ukrainian Air Force made several flights across Czechoslovakian territory in the years between 1919 and 1921. These overflights, approved through diplomatic channels, were made to transfer freshly-printed banknotes from Vienna or gold from Bavaria to the Ukrainian capital of Kiev. Aircraft used were a Lloyd biplane of unknown type but named "Express", and Gotha G.L.VIIs.

During one of these flights, a G.L.VII named "Olena" and flown by a German pilot, Clausen, made an emergency landing at the Vajnory airfield near Bratislava where the Czechoslovakian authorities interned the aircraft. Upon completion of the repairs, probably in February or March 1920, the G.L.VII was to fly to Prague for evaluation.

The aircraft took off with Clausen again at the control and with two Czechoslovakian mechanics aboard. However, the flight ended almost immediately with another emergency landing, this time near the village of Stupava outside Bratislava. Damage was slight and after repairs were made by the experienced mechanics, the aircraft took off in an attempt to return to Vajnory airfield. The flight ended in a crash which totally destroyed the aircraft but luckily the crew escaped with minor injuries.

Pilot Clausen claimed that the crash was caused by the failure of one of the engines. The mechanics, on the other hand, reported that the engines continued to operate up to the moment of the crash, but that the aircraft was flying a "curious and falling curve", but that the pilot had attempted to make Vajnory airfield rather than risk landing in one of the many meadows around. The cause of the crash was to have been examined further by the Czechoslovakian authorities, but the results of this study are not known.

There exists photos of "Olena" taken at Prague-Kbely airfield in the winter of 1919-1920 indicating that a flight between Bratislava and Prague and back must have taken place, but no documents exist placing the aircraft at Prague or reporting on any evaluation of the aircraft.

That there was official interest in the Gotha G.L.VII is certain. The young Czechoslovakian Republic ordered three unarmed G.L.VIIs from the Gothaer Waggonfabrik at Gotha, Germany. The first aircraft was paid for in advance and the remaining two were to be paid for after delivery. However, the first aircraft was destroyed on its delivery flight when it crashed in the Harz Mountains, slightly injuring its German crew.

At this time, the purchase of German combat aircraft by Czechoslovakia was being considered by the Allied Armistice Commission in Germany. However, strong pressure by the French representative prevented the realization of such sales. Instead, the Czechoslovakians were encouraged to obtain war surplus aircraft from the British and French.

Technical description: The Gotha G.L.VII (leicht) was a conventional biplane of wooden construction and fabric covering. Features included six pairs of struts, two engines mounted in nacelles on the lower wing, two radiators on the upper wing above the engines, twin fins and rudders, two main wheels mounted to the engines by curious two-strut legs, a short-nosed fuselage, cockpit between the wings, and wooden two-bladed propellers.

Specifications: Span 63 ft 3 in. (19.27 m); length 31 ft 6 in (9.60 m); height 11 ft 6 in. (3.50 m); empty weight 5350 lbs (2408 kg); loaded weight 6920 lbs (3114 kg); maximum speed at ground level 112 mph (179 km/h); maximum ceiling 19,600 ft (5880 m); time to climb to maximum ceiling 38 minutes; maximum range 390 miles (624km).

Armament: 1 or 2 flexible machine guns. Engines: Two Maybach if 260 hp each. Built 1916-1917 by Gothaer Waggonfabrik, Gotha, Germany.

Camouflage and Markings: The colors of the Ukrainian G.L.VII "Olena" can be estimated from the photos. Wings and elevators were covered with losenge-printed fabric which consisted of irregular hexagons; dark colored ones on the upper surfaces and light colored ones on the lower surfaces. The approximate colors were violet, pink, blue, green, and grey. The front of the fuselage was probably a greyish green as were the struts, engine nacelles, and wheels. The rest of the fuselage was fabric covered and sprayed with camouflage spots, perhaps in greyish green, green, and grey. The fins and rudders appear to have been white. The Ukrainian national marking consisted of a dark blue square with a yellow stylized trident based on the traditional Ataman Trident, the badge of Ukrainian cossack captains. The inscription "Olena" was white with a black shadow effect.

PHOTOS (via J. Krumbach unless otherwise noted)

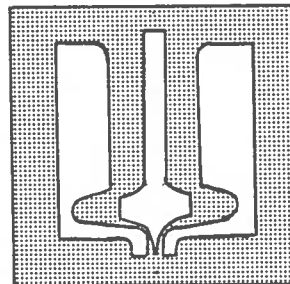
1. Gotha GL VII "Olena" during engine tests at Prague-Kbely. The Ukrainian national insignia is carried on the rudder.

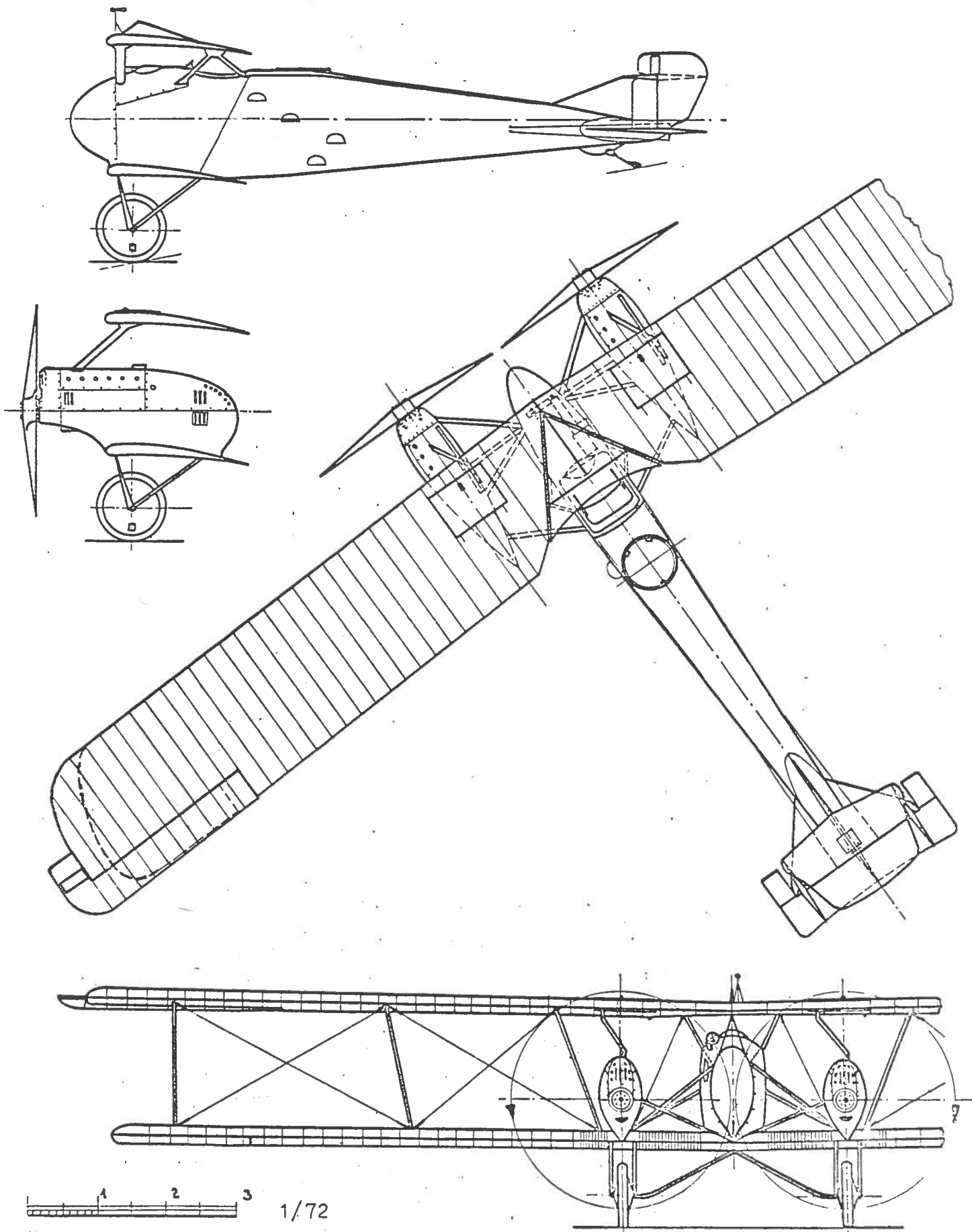
2. "Olena" at Prague-Kbely. The Ukrainian national insignia is carried on the undersurfaces of the lower wing.

3. Czechoslovakian aviation personnel in front of "Olena" at Vajnory airfield, 1920.

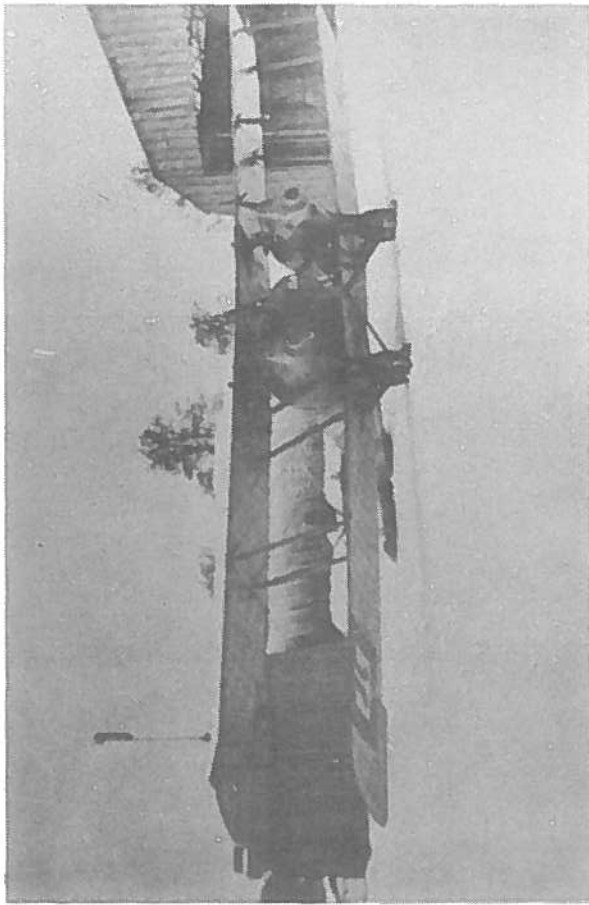
4. "Olena" at another season and an unknown location. Unfortunately, no national insignia are visible. Czech or Ukrainian service? Can anyone supply information? (via Zdenek Cizinsky SAFCH #97).

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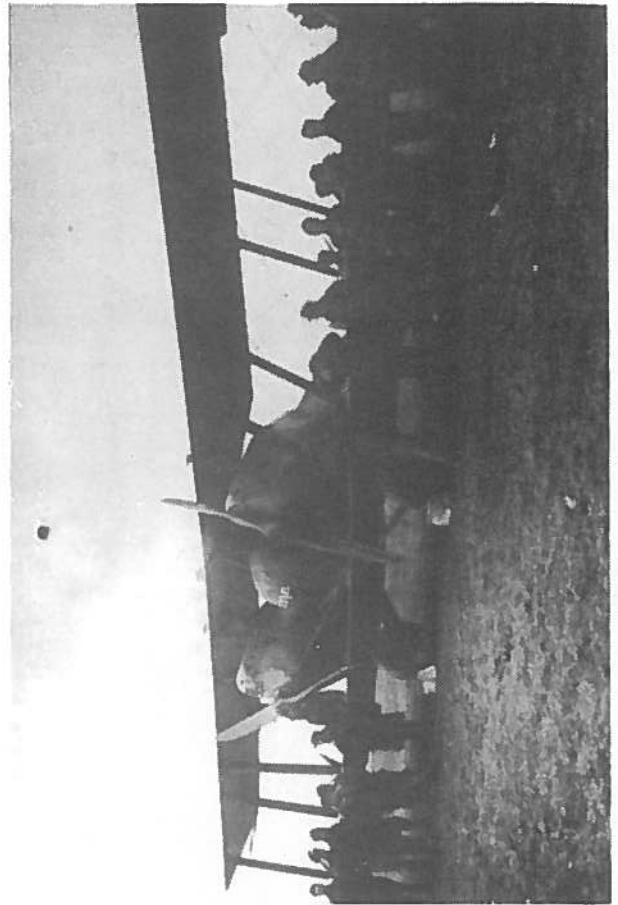




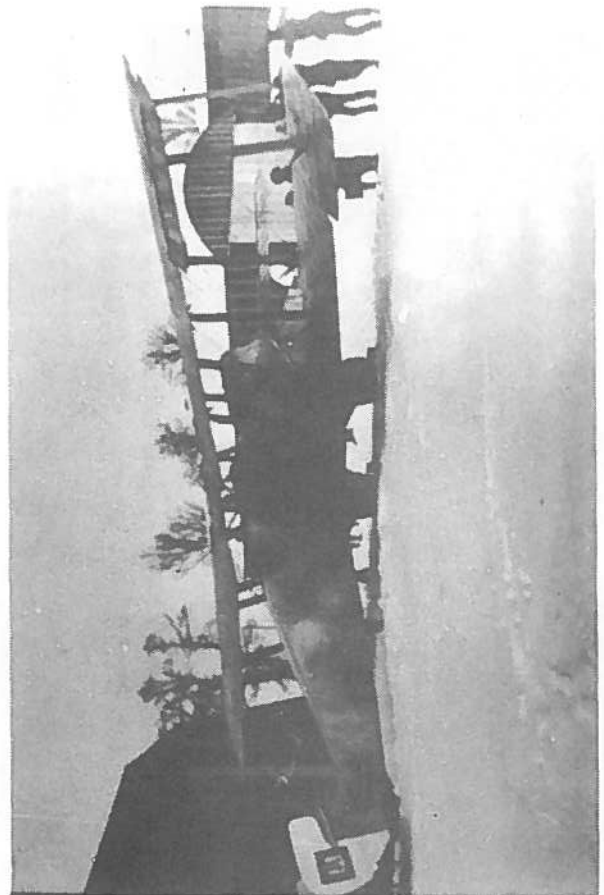




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4

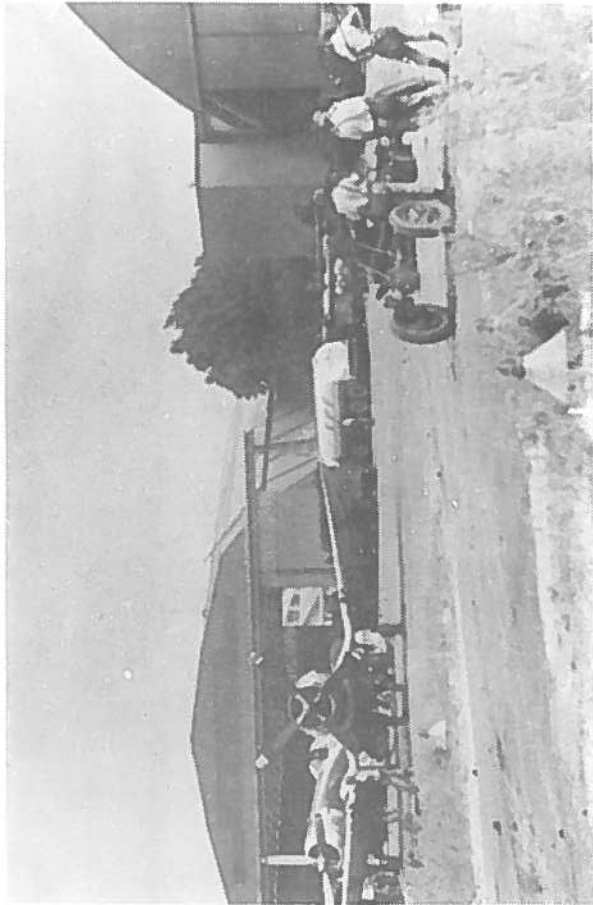
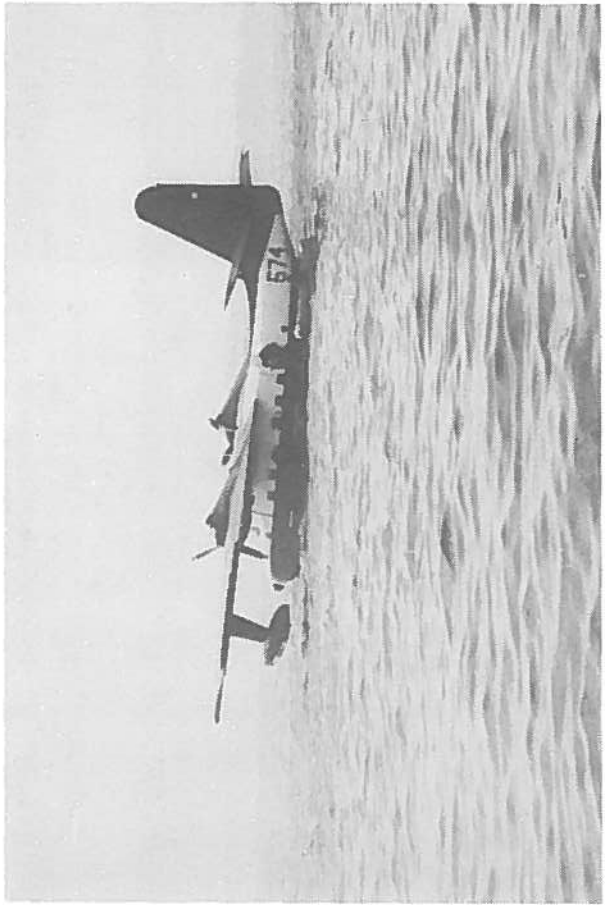
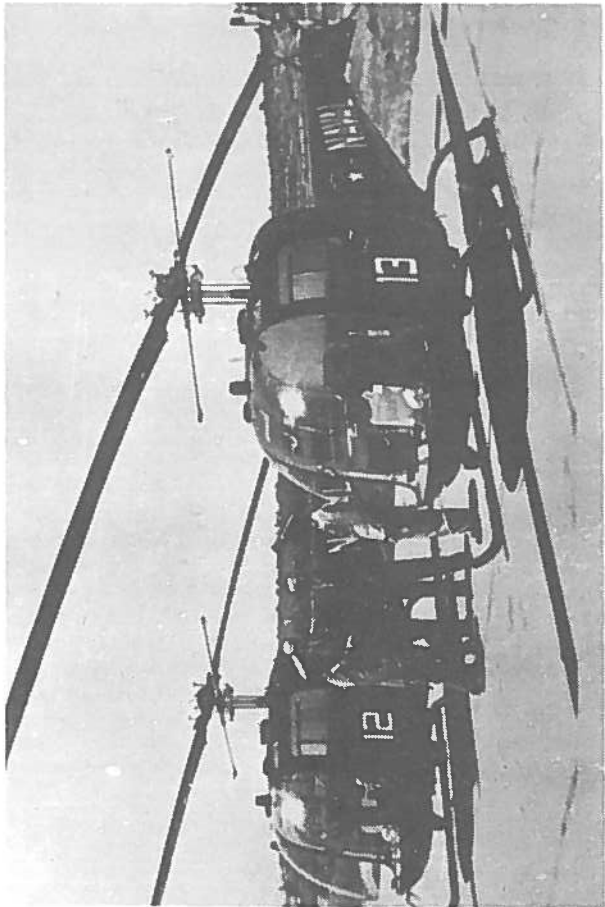


1



3

Vajnov 1910



All photos PUCARA via George Rauch (SAFCH #536)

"Dan Hagedorn's letter (SAFO # ) brings out several interesting questions:

"1. My own list was produced to complete and correct the previous list published by Bram Risseuw, hence those points upon which we agreed (EMB-110, 111, Alouette 3, etc.) were not tackled, there was no need.

"2. The Fairey IIIFs operated by the Navy were indeed 23 through 27. Service unification, as Dan is quite aware, took place on 21 March 1930 - yet the second batch of Fairey IIIFs was reported 'in order' by a National Archives document dated January 1931, almost ten months later. The Fairey Seals are a bit troublesome - production Seals were delivered between 1933 and March 1935. Thus we can assume that the two Seals mentioned by Dan are the two referred to in a G-2 report dated September 1937. This report, listing all FACH aircraft by type and quantity, says that 'only 20 of these are modern aircraft, including 18 Avro 626 and two Fairey acquired during 1935' - but then again, these 1935 machines aren't Navy.

"3. Vickers Type 102 Valparaiso. Evaluation doesn't count. (Are we to add to the list the Junkers F.13 floatplane which the navy evaluated but which was eventually sold to the air force as a land-based type?) No, the Valparaiso was an air force machine that served between February 1925 and November 1931. Sergi S. of Chile assures us that it once bore s/n 12A. (As this serial was attached to the rather similar Vixen, this serial assignment is still unsettled.)

"4. Grumman UH-16. We joyfully accept Dan's challenge! Whereas we have no photo of s/n 572, we refer Dan to the July-September 1977 issue of 'Revista de la Fuerza Aerea de Chile' (page 29, photo 2) - 572 can be seen flying over a US warship during "Operation Unitas". 573 was reported by Sergei as 'in service as early as March 1974'. As for 574, I include two photos for publication in SAFO.

"5. Bell 47J. Dan questions s/n 11 through 13, and gives evidence for s/n 14 and 15. Grainy, but useable photos of the machines carrying the first three s/n are enclosed.

"6. Avro 504. A great deal of confusion still exists here. I refer you to Col. Enrique Flores' 'Historia Aeronautica de Chile' (Santiago de Chile, 1950), page 419; 'the first recorded flight from Las Torpederas NAS took place on 21 January 1921 by the British Col. James Travers aboard a float equipped Avro 130 hp'. In fact, the Avro 504J (and K) were but updated models of the 110 hp 504 used earlier in Chile.

"7. Sopwith Baby. I seriously doubt that any went to the air force, as least as airworthy machines. Some of their remains were taken to the air force's 'Maestranza' where their 130 hp engines were salvaged and fitted into Chilean-built Avros. (The sub-type of these machines escapes me. Some Chilean-built machines received Hispano Suiza 150 hp engines, which perhaps equates them to the Avro 552 rather than the 504. This leads to further questions.) All recorded flights of the Baby involved, to my knowledge, naval usage.

"8. Bell 47G. I have photos (and clippings) of these machines with 'A' prefix and without any prefix. I would welcome proof of the 'N' prefix - if such proof exists.

"9. Avro 504 C-100 and C-101 were Navy machines as proven by their use at Las Torpederas during November 1919 by midshipmen (guardiamarinas) Villegas and Zanartu. C-100 became Air Force 75 'Jose Abelardo Nunez', and C-101 became Air Force 76 'Esmeralda'. The latter was still active in 1925. Of the eight Avros ceded by Britain to Chile in 1919, as part of the reparations for the seizure of two Chilean battleships, six went to the Air Force and two went to the Navy. Yet we have (other than the 504Ls and 504Ns mentioned by Dan) many more serials unaccounted for. These I suspect are all Chilean-built aircraft, heretofore unreported as such."

Horst Eichert, Chilean Specialist, c/o PUCARA, PO Box 1356, Highland Park, NJ 08904.

"In the July-Sept 1977 issue of the FUERZA AEREA magazine, as well as in the special issue devoted to the 50th anniversary of the FACH in March 1980, there appear photos that prove that more than six examples of the HU-16B were acquired by the FACH. One of these photos shows a line-up of five ASW examples, serialised 567-571. Adding to these the one serialised 566 (as reported by Dan) we get a total of six ASW versions. But to these we must add the SAR examples (also pictured in the above mentioned magazines) serialised 565 and 574, providing at least 8 examples. One of the photos is particularly interesting because it shows 574 together with an ASW HU-16B sporting a late camouflage scheme, thereby proving that 574 is not an early serial that was later changed (a possibility suggested by Dan)."

Jose Luis Gonzalez Serrano (SAFCH #141), Galileo 46 3° Izquierda, Madrid-15, SPAIN

"Some comments on Chilean PBY-5A Catalinas: The three PBY operated by ASPAR-AEROSERVICIOS PARRAGUE were ex-French Aeronavale based at Tahiti; not ex-Chilean AF. The PBYs are: CC-CDT PBY-5A c/n CV-332, Aeronavale 32, F-YCHB. CC-CGY PBY-5A c/n CV-520, Aeronavale 20, F-YCHA, to CC-CDU, cannibalized. CC-CDS PBY-5A c/n CV-281, Aeronavale 81, F-YEIC, crashed 6 April 1979 w/o.

"The other Catalinas used by ASPAR are CC-CNP PBY-6A c/n 46665, ex TRANSA, ex US Navy; and CC-CCS c/n 46679, ex CC-CNF."

Jorge F. Nunez (SAFCH #395), Humboldt 2763/65, Bahia Blanca 8000, Buenos Aires, ARGENTINA

"I would like to comment on the various listing of Chilean Naval aircraft. For example, I can not get the Avro 504s 76-82 and 82-87 to fit into the naval serial system used before 1930. Dan Hagedorn seems to mean that they were naval aircraft. My list looks like this:

1-6	Short 184	1921	51-53	SH-34J
8-9	Channel II	1921(1923)	60-65	Alouette III
11-12	Wal	1926	102-106	Beech D 18
14	Wal	1926	107-109	EMB 110C(N)
15-18	Wal	1928	115	PA-31-310
22	Avro 5040	1929	121-124	C-47
23-26	Fairey IIIF	1927	127	C-47
27	Junkers W.34b	1929	145-148	C 212A
			201-206	T-34
A 001-003	Bell 47		210-219	PC-7
A 101-106	Beech D 18		251	HU-16
N 01-07	Bell 47G		257	HU-16
11-14	Bell 47J		261-266	EMB 11A(N)
15-16?	Bell 47J			
H 31	Bell 206A			
31-34	Bell 206A			

Lennart Andersson (SAFCH #68), Liljeg 9A, S-753 24, Uppsala, SWEDEN.

"A recent letter from Ben Marselis alerted me to an error in my FACH comments (SAFO #20). Instead of '812 was w.o.' it should read '812 landed safely'.

"Re the Argentine Corsairs: I thought your readers might enjoy the enclosed photo of Aviacion Naval Corsairs at Punta Indio Naval Air Base. This photo was taken at 0915 hours 3 April 1963 immediately after the base fell to Army forces. Note the Bofors 40mm on right and the Army M-9 halftrack in background. The Corsairs were fully armed and ready for another sortie, but the Army got there first!"

EDITORIAL

Continued from page 102

SAFCH has always been to promote international understanding by encouraging cooperation among aviation enthusiasts from different countries. Let us not allow petty differences to dilute this effort.)

# AVIACION NAVAL DEL PARAGUAY

Savoia-Marchetti SM.79bis: One acquired from Col. Ernesto Colombo, April (or March) 1929. Forced landing at end of 1933, repaired with completely new wing. During 1935 dismantled and retired from service. The engine was a Isotta Fraschini of 500 hp. Serial: R-1.

Cant 10ter: One acquired from Col. Colombo in April or July 1929. Lorraine engine.

SAML A-3: Purchased from Sgt. Nicolas Bo, 25 September 1929. Engine: 100 hp Colombo.

Macchi M.18: Two in 1933. Serial: R-3 and R-5. R-3 reported lost during Chaco War. R-5 lost August 1935.

Caproni AP 1: A number of these fighters were delivered to Paraguay, most went to the Air Force, but two on floats could have been operated by the Navy.

Vultee BT-13A: One was used by the Argentine Naval Mission in Paraguay.

North American SNJ-4: Three reported received from Argentine Navy during the early fifties. The remains of two SNJ's were seen at the Naval Air Station Puerto Sajonia in 1974/75.

North American AT-6C: Two received as a gift from the Argentine Navy on 25 November 1969. Serials 400 and 446. (Could have been former Argentine Navy 0400 and 0446. Current 1975.

Bell 47: At least four current December 1975 at Puerto Sajonia.

Grumman Goose: Three Geese were delivered to Paraguay (Navy or Air Force?) from Atlanta, Georgia, in November 1959 as T-001, T-002, and T-003. At least three were received from Argentina, including one in 1966 from Argentine Coast Guard. s/n 0126 c/n B53 (ex LuA 37800) became N3284 (JRF-5); s/n 0127 c/n B29 (ex BuA 37776) became N3283 (JRF-5); s/n 0128 c/n 1100 (ex Argentine Navy 0186, ex JRF-4 BuA 3846). The remains of a Goose, in derelict condition, was at Puerto Sajonia in 1974.

Amphibian Biplane: One of an unknown type preserved at Puerto Sajonia 1974.

Cessna U-206A: Two dd August 1966. s/n 130 (c/n 0648), 131 (c/n 0649).

Cessna U-206C: One dd September 1968, s/n 132 (c/n 1159); one dd December 1968, s/n 133 (c/n 1223).

Cessna 210: s/n 136 (current 5.80).

Cessna 150M: Two dd February 1976, s/n 122 (c/n 77842), 124 (c/n 77860). There were no s/n 121 and 123.

Douglas C-47A: One donated by Rear-Admiral R.J. Serra of Argentine Navy in November 1979, s/n T-26 (ex Argentine Navy 0278/5-T-26, ex CTA-26, ex 4-T-26).

Compiled 17-9-81 with the help of Daniel Hagedorn, IEAH, and others.

Bram Risseuw (SAFCH #396), P. de Hooghstr. 3, 4532 HH Terneuzen, NETHERLANDS.

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"I reported that three Nicaraguan B-26 were traded for Cessna Skyhawk aircraft. Further information received from Mr. Santiago Ruiz reveals that this was part of a much larger deal. Mr. Taillichet, of Planes of Fame Museum, offered the Nicaraguan Government seven late model Cessna Skyhawk aircraft in return for the following: 5 T-28A, an A-20, the three B-26, and an old Bonanza. The seven Skyhawks were delivered, but the Nicaraguan Government placed a 36-hour time limit on the removal of the other aircraft, and only two T-28 were actually taken out of the country. The fate of the remaining aircraft is unknown.

"The following serial numbers for Cuban T-33 have come to light: 701, 703, 707, 711, 713, and 715. Aircraft 707 was involved with flying mail from Cuba to Miami in 1955. Aircraft 703 & 711 are known to have been active, during the Bay of Pigs incident, both scoring 'kills' against CIA B-26.

"Additional serials for CIA-flown B-26 during the Bay of Pigs invasion are FAR 929, 933, & 935."

Nick Waters (SAFCH #2), 803A Kirkbride Ave., Pearl City, HI 96872.

"On the subject of Latin American T-33 (SAFO #22), here is a list of Lockheed T-33A operated by the Fuerza Aerea Mexicana and in service with the 'Escuadron Aero del Pelea 202' 7 Grupo Aereo, Base Aerea Militar Santa Lucia (December 1981): JE-002, 004, 009, 010, 011, 013, and 016. (1)

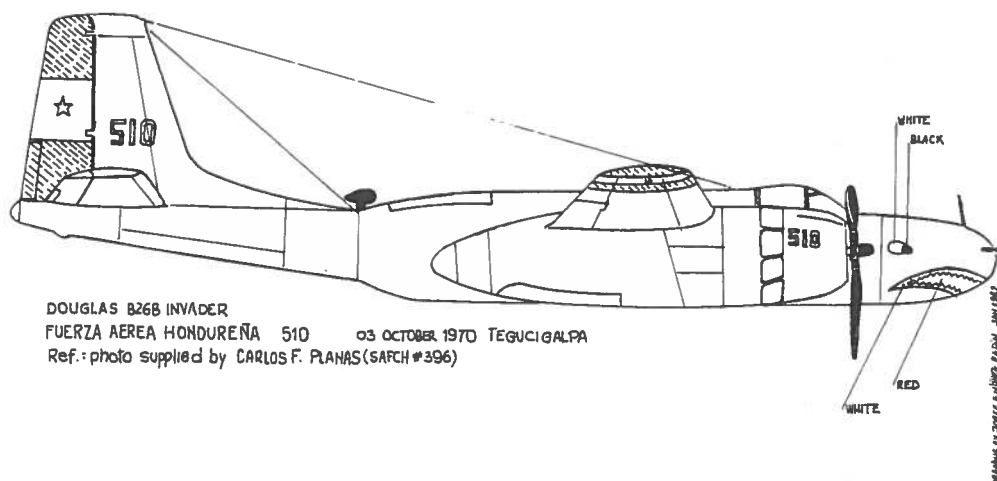
"Aircraft not in service: JE-001 (2), 003, 005, 006, 007, 008, 012, 014, and 015. (3)

"(1) JE-016 appears in a photo, leading me to believe that the FAM actually operated 16 T-33A. JE-016 could have been a replacement aircraft. The FAM attempted to obtain T-33 from the Dutch Air Force; we knew that 8 aircraft got as far as Arizona, where they were bought by civilians never to reach the FAM.

"(2) JE-001 crashed 3 December 1981 during winter exercises in the State of Veracruz; the pilot was killed and the co-pilot suffered two broken legs.

"(3) JE-015 crashed 17 July 1978 at Puebla.

Santiago A. Flores (SAFCH #588), Co. C 6/32 Armor, Fort Carson, CO 80913



# Irish Air Corps

## Status Report

A fundamental change in the Air Corps' organizational structure was undertaken in June 1980. With the considerable increase level of operational tasks being undertaken, it was felt desirable to separate the training functions from the operational activities as far as possible. Accordingly, five distinct Wings were established, one of which is responsible for the bulk of the training functions. Each Wing reports directly to Headquarters Air Corps Group, which in turn reports to Headquarters Army. The former was also physically moved from its previous location at Baldonnell to Defence Headquarters at Parkgate, Dublin. The five Wings are:

**Training Wing:** This covers the Basic Flying Training School, operating SF260s; the Advanced Flying Training School, operating SF260s, Magisters, Gazelles, and (initially) the Puma; the Apprentice School; and the General Training Depot (for recruits).

**No. 1 Support Wing:** This comprises the Helicopter Squadron, operating Alouette IIIs, and is further broken down into a SAR Flight and a Support Flight; the Light Strike Squadron, operating Magisters; the Transport and Training Squadron, operating KingAir 200 serial 240 plus the HS125 Srs. 700 - this is also broken down into a Training-Recce Flight and a Transport Flight; and the Maritime Squadron with KingAir 200s serials 232 and 234.

**No. 2 Support Wing:** This operates the Cessna 172s from Gormanstown.

**Engineering Wing and Administrative Wing:** Neither of these Wings operate aircraft.

In the case of the SF260s, specific aircraft are not allocated to the Basic and Advanced Flying Training Schools, and similarly the Magisters are shared between the Advanced FTS and the Light Strike Squadron as required.

A recent visit to Baldonnell in mid August provided us with an opportunity to view the latest acquisition, the Puma, which is the subject of a separate article. Other fleet additions since the last report include Reims Cessna FR172P 243, which was delivered on 7 April 1981 to replace Reims Rocket 204, whose wreckage is still in one of the hangers at Baldonnell. 243 is distinguishable by virtue of its wheel spats from the remainder of the fleet. It is based at Gormanstown, and was not at Baldonnell at the time of our visit. Rocket 209 was visiting and 205 was on overhaul.

KingAir 200 serial 240 was delivered on 23 May 1980 and is primarily used as a training aircraft. This enables both 232 and 234 to be allocated full time to maritime work. Unlike the first two KingAirs, which still retain their Beech paint scheme, 240 is in the attractive "HS125"-type of colours, basically all white with green and orange cheatlines. It is used on Government transport work when the HS125 is not available.

The Maritime Squadron is now well established with KingAirs, and patrols of the 50-mile zone are undertaken on a daily basis. Photographs of suspect vessels are taken through one of the cabin windows using a hand-held Hasselblad camera, and although special observation windows are not fitted, results have been excellent, with a high degree of resolution and clarity. There is a facility for overprinting the aircraft's position readout from the Omega navigational system on the negative, which could possibly be used as evidence of illegal fishing, although the acceptability of this as evidence has yet to be established. However, one of the main benefits of maritime air patrol operations is simply the deterrent it offers if it is perceived to be a regular activity. The KingAirs have also proven invaluable during SAR work, the most noteworthy example perhaps having been the Fastnet Yacht Race disaster several years ago when an Air Corps KingAir located no less than 60 boats.

Both Gazelles were present, with 237 on overhaul and 241 on flying training work. The latter was delivered on

14 January 1981, and differs from 237 in that it carries dayglo panels on the underside, nose and tail, whereas 237 is plain red. The Gazelles are used solely for training work, both for basic helicopter training and for helicopter IFR training for Puma crews. The Puma itself was also present, with its khaki-green matt finish. The Alouettes still soldier on, veteran machine serial 195 being on overhaul, whilst the last to be delivered, 214, was on the helicopter pad.

HS125/700 serial 238 was on overhaul in England at the time of our visit. August is traditionally a quite period for EEC activity, due to holidays, and is thus a useful time for overhauls. Generally, the aircraft is kept quite active, and in 1980 some 800 passengers were carried. In order to facilitate handling these VIP flights, a small terminal building has been erected at the edge of the parking apron, which has convenient access from the main gate.

The SF260s were very active, and serial 235 was in evidence. This machine was acquired in April 1979 to replace 224, which was destroyed in a non-fatal accident. The Air Corps currently has about 7 cadets undergoing pilot training and with their recent fleet expansion, will require a continuing flow of new pilots. A recent report in Flight magazine stated that the Air Corps had ordered a two-axis simulator from Flysim which will represent the left-hand panel of a KingAir and the right-hand panel of an SF260. The Chipmunks have now virtually ceased flying since serial 200 was tragically lost in an accident at Gormanstown on 24 April 1980, although two machines are still basically airworthy at Gormanstown. Chimpunk 172 was present in good condition in one of the hangers at Baldonnell, whilst the remains of 171 was on the dump.

Of the other former Air Corps types, most of the Vampires are still present in varying condition. 191 (destined for the Irish Aviation Museum at Dublin Airport) and 192 (for the College of Technology, Bolton Street) are hangered, whilst the gutted nose section of 193 is on the dump. 198 is still on display as a "gate-guard" and 187 is parked out on the airfield near the boundary. The latter is one of three acquired by Captain Jim Cullen of the USA, but it appears that he is not taking delivery of this machine, and has indicated that it can be disposed of. 193 was also one of his acquisitions, whilst the third, serial 186, made it to Tucson, Arizona and curiously in November 1979 it was registered N4861K to the US Department of Defense. Finally, Vampire 185 was acquired several years ago by the French Air Force for a museum.

The Doves have gone completely, 176 having been transferred to the Civil Defence authorities for use in rescue training in the Phoenix Park, and numbers 194 and 201 having been sold to Staravia. The latter two machines departed Baldonnell for Exeter on 23 September 1980 in UK marks G-ARUE and G-ARSN (although the former was incorrectly marked "G-ARVE"). The veteran Anson 141 is now stored outside, the additional hanger requirements caused by the Puma having necessitated its removal from the hanger. Also outside are two Provosts, 177 and 178, whilst 183 is inside, used for apprentice training. Provosts 181 and 184 still linger on in the dump. Also used for apprentice training is Cessna 172B G-ARLU, which was acquired in November 1979 after it had been damaged by gales at Biggin Hill.

Several procurement possibilities exist, although as always they are subject to budgetary constraints, particularly as Government spending is under such pressure in the current inflationary environment. A fourth KingAir 200, configured for photographic survey, has been under consideration for some time, and is possibly the most pressing requirement. As mentioned earlier, the maritime patrol KingAirs are only used to patrol to 50-mile zone

Continued on page 127



# Brazilian FW 58

By 1935, the Aviacao Naval, like it's sister air arm, the Aviacao Militar, were both facing a problem of great proportions. Due to a lack of foresight or proper planning, both air arms acquired a very large number of aircraft during the late 20s and early 30s without taking into consideration that there should be a certain measure of commonality among combat and trainer aircraft. As a result, in January of 1935, the Aviacao Naval ascertained that out of 143 aircraft on strength, only sixty were airworthy and even then, in marginal conditions. As an example, by 1934 the Aviacao Naval had used or was using fourteen different types of trainer aircraft and as can be imagined, maintenance was a very severe problem and was further compounded by a lack of spares for the aircraft and a paucity of adequately trained personnel for the different types of airplanes.

Oddly enough, it was the Aviacao Naval which took the first steps to remedy this very sad state of affairs. After sending envoys to the United States and Germany, it was decided that a contract should be signed with the Focke Wulf concern for the licensed manufacture of their aircraft. According to the terms stated in the contract, four different types of aircraft were to be built in four distinct phases, each comprehending the assembly and manufacture of one type of aircraft. The first phase would be initiated with the assembly of two German-built FW-44s and the manufacture of a further forty units at the Oficinas Gerais da Aviacao Naval. It should be noted, that in the contract Focke Wulf would be responsible for providing engineers, technicians, training personnel, machinery and the necessary blueprints, while the Aviacao Naval would provide the workshops, hangers and buildings in which the aircraft were to be built.

After the first series of FW-44s were built, the Aviacao Naval decided to gain time and start the construction of the FW-58 skipping the FW-56 which was the second phase. In the event, one FW-58 built by the parent company was sent to Brazil in 1937 and was test flown on the 30th of July of the same year. This aircraft was to be used as a pattern for the FW-58s which were to be assembled in the Oficinas Gerais and as an instructional aircraft for pilots and mechanics. The first FW-58 assembled at the workshops was test flown on 20 April 1938, while the tenth aircraft was flown for the first time on 4 October 1938. All of the FW-58s, including the aircraft provided by Focke Wulf, were distributed to the 2° Esquadilha de Adestramento Militar based at the Base Aeronaval do Galeao, where they were flown primarily on advanced training missions.

Enthusiastic with the success achieved with the FW-58, the Aviacao Naval decided to acquire material for the construction of 25 FW-58s which were to be built at the newly inaugurated Galeao Factory. These aircraft were to have a much higher percentage of Brazilian components than the ten previous aircraft assembled at the Oficinas Gerais. However, events took a rather unexpected turn for the Brazilians when on the 3rd of September, a state of war was officially declared between Germany and Britain along with France. Supplies were considerably hin-

dered since the British stopped all ships carrying German material into Brazil and the fact that the Germans by that time had other things in mind. One of the consequences of this was the substitution of several items of German manufacture in the aircraft by those of American origin such as machine guns, bomb shackles and radio equipment. These changes also applied to the ten aircraft that were assembled at Galeao.

Another event which was also taking place, was the creation of the Ministry of Aeronautics which has as its main implication the merging of the Aviacao Naval and the Aviacao Militar thereby forming the Brazilian Air Force. The extinction of the Aviacao Naval and the Aviacao Militar as entities was to be effective as of 20 January 1941, therefore only the first five FW-58s were actually delivered to the Aviacao Naval, the original order for 25 being cut down to only 15 aircraft and as such, the next ten FW-58s were delivered directly to the FAB. The last aircraft was made its first flight on 12 December 1942.

As mentioned previously, the first eleven FW-58s were distributed to the 2° Esquadilha de Adestramento Militar where they were joined by the first five aircraft built at the Galeao Factory. With the creation of the FAB these sixteen airplanes were transferred to several units, however a large portion of the aircraft went to the Escola da Aeronautica at Campo dos Afonsos AFB. With the declaration of war against the Axis powers, the FW-58s were employed on patrol duties against the German submarines which were quite abundant off the coasts of Brazil during 1943. Although wholly inadequate against a submarine, the FW-58s were used as an interim measure until the FAB received appropriate aircraft such as Hudsons, Harpoons, Venturas, Catalinas and B-25s from the USAAF. Nevertheless, the FW-58s were able to make a rather good account of themselves due to their very long radius of action and quite often these aircraft did sight German submarines although none of them actually fired their guns in anger. It would be quite an irony for a German submarine captain to have his ship sunk by an aircraft of German origin.

With the arrival of the first B-25s, Catalinas and Hudsons, the FW-58s were relegated to much less glamorous duties such as liaison, personnel transport and as cargo aircraft for the FAB Mail Service.

In addition to the 26 aircraft on hand with the FAB, two FW-58Cs were also acquired, these being ex Sinicato Condor aircraft that were impounded by the Brazilian government. After the war, the FW-58s were used solely with the FAB Mail Service, but with the shortage of spares and the introduction of C-47s and C-45s in the Mail Service, the FW-58s were slowly deactivated from the FAB, the airplanes being either scrapped or transferred to several governmental agencies. Finally, in 1951, the last FW-58 was struck off from the Civil Aircraft Register.

Jackson Flores, Jr. (SAFCH #537), Museu Aeroespacial, Av. Mal. Fontenelle 2000, Campo dos Afonsos, 21.740 Rio de Janeiro, BRAZIL.

AIRCRAFT	C/N	AVIACAO NAVAL S/N	FAB S/N	REMARKS
FW-58B-2	147	D2FW-147(3)	AT-FW58 1167	Built by Focke Wulf Flugzeugbau. Deactivated in 1945.
FW-58B-2	168	D2FW-168	AT-FW58 1168	Built by Focke Wulf Flugzeugbau. Assembled by OGAN(1). Deactivated in 1947.
FW-58B-2	169	D2FW-169	AT-FW58 1169	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated in 1946.
FW-58B-2	170	D2FW-170	AT-FW58 1170	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated in 1945.
FW-58B-2	171	D2FW-171	AT-FW58 1171	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated from the FAB in 1946. In 1947, donated to the Ministry of Agriculture.
FW-58B-2	172	D2FW-172	AT-FW58 1172	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated in 1947.

FW-58B-2	173	D2FW-173	AT-FW58 1173	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated in 1947.
FW-58B-2	174	D2FW-174	AT-FW58 1174	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated in 1946. Transferred to the Ministry of Agriculture in 1947.
FW-58B-2	175	D2FW-175	AT-FW58 1175	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. Deactivated in 1947.
FW-58B-2	176	D2FW-176	AT-FW58 1176	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. On 12/01/43 to Florianopolis AFB. 02/10/47 to Galeao Factory. Deactivated in 1958.
FW-58B-2	177	D2FW-177	AT-FW58 1177	Built by Focke Wulf Flugzeugbau. Assembled by OGAN. On 15/02/44 to Santos AFB. 05/06/44 to Galeao AFB. 24/03/49 to Galeao Factory. Deactivated 11/07/51.
FW-58V-9	209	V2AvN-209	AT-FW58 1178	Built by Galeao Factory. Deactivated in 1947.
FW-58V-9	210	V2AvN-210	AT-FW58 1179	Built by Galeao Factory. On 22/07/43 to Curitiba AFB. Deactivated 08/03/50.
FW-58V-9	211	V2AvN-211	AT-FW58 1180	Built by Galeao Factory. Deactivated in 1947.
FW-58V-9	212	V2AvN-212	AT-FW58 1181	Built by Galeao Factory. Deactivated in 1947.
FW-58V-9	213	V2AvN-213	AT-FW58 1182	Built by Galeao Factory. Deactivated in 1947.
FW-58V-9	214	V2AvN-214(2)	AT-FW58 1183	Built by Galeao Factory. On 29/10/43 to Galeao AFB. 15/02/44 to Santos AFB. 02/10/47 to Galeao Factory. Deactivated 29/08/49.
FW-58V-9	215	V2AvN-215	AT-FW58 1184	Built by Galeao Factory. Deactivated 23/07/46. Reactivated on 24/08/48 and reserialled AT-FW58 1530. 11/11/49 donated to Ministry of Agriculture. Deactivated from the FAB 04/08/55.
FW-58V-9	216	V2AvN-216	AT-FW58 1185	Built by Galeao Factory. Deactivated 1947.
FW-58V-9	217	V2AvN-217	AT-FW58 1186	Built by Galeao Factory. Deactivated 1947.
FW-58V-9	218	V2AvN-218	AT-FW58 1187	Built by Galeao Factory. Deactivated 1946.
FW-58V-9	219	V2AvN-219	AT-FW58 1188	Built by Galeao Factory. Deactivated from the FAB 23/07/46. Donated to the Ministry of Agriculture 26/09/47.
FW-58V-9	220	V2AvN-220	AT-FW58 1189	Built by Galeao Factory. On 12/01/43 to Florianopolis AFB. On 02/10/47 to Galeao Factory. Deactivated and donated to the Government of the State of Goias on 04/09/52.
FW-58V-9	221	V2AvN-221	AT-FW58 1190	Built by Galeao Factory. On 12/01/43 to Galeao AFB. On 2/10/47 to Galeao Factory. Deactivated on 23/09/58.
FW-58V-9	222	V2AvN-222	AT-FW58 1191	Built by Galeao Factory. On 06/0543 to Galeao Factory. Deactivated on 21/12/49.
FW-58V-9	223	V2AvN-223	AT-FW58 1192	Built by Galeao Factory. On 22/07/43 to Curitiba AFB. On 2/10/47 to Galeao Factory. Deactivated 08/03/50.
FW-58C(4)	3102		UC-FW58 2654	Built by Focke Wulf Flugzeugbau. Ex Sindicato Condor. Deactivated in 1946.
FW-58C(4)	3103		UC-FW58 2655	Built by Focke Wulf Flugzeugbau. Ex Sindicato Condor. Deactivated in 1947.

Remarks: (1) OGAN = Oficinas Gerais da Aviacao Naval.

(2) It should be noted that the first 16 a/c were allotted serial numbers of the Aviacao Naval and which were duly used. The following 10 a/c were delivered to the FAB and therefore never used the Naval serial numbers allotted to them.

(3) The first 16 a/c were used by the 2° Esquadilha de Adestramento Militar until 20 January 1941, when they were transferred to the FAB.

(4) Aircraft impounded by the Brazilian government.

# THE PHILIPPINE AIR FORCE HUKBONG HIMPAPAWID NG PILIPINAS July 1981

5th Fighter Wing, Basa Air Base, Pampanga  
6th Tactical Fighter Sqd. F-5A, F-5B  
7th Tactical Fighter Sqd. F-8H  
105th Combat Crew Training Sqd. T-33A, RT-33A, T-34A

15th Strike Wing, Sangley Point Air Station, Cavite  
16th Strike Sqd. T-28D  
17th Strike Sqd. SF-260W  
18th Strike Sqd. T-28D  
27th SAR and RS Sqd. HU-16B

240th Composite Wing, Sangley Point, Cavite  
601st Liaison Sqd. U-17A/B, U-6A  
291st Special Air Mission Sqd. BN Islander

205th Composite Wing, Nichols Air Base, Pasay City  
206th Air Transport Sqd. C-47  
207th Air Transport Sqd. C-47  
208th Air Transport Sqd. F-27, F-27 LRHP  
210th Helicopter Sqd. UH-1H  
211th Helicopter Sqd. UH-1H  
505th Air Rescue Sqd. UH-1H, MBB Bo-105  
901st Weather Sqd. C-47, Cessna Centurion WX Mod.

220th Heavy Lift Wing, Mactan Air Base, Mactan  
221st Heavy Airlift Sqd. C-123K  
222nd Heavy Airlift Sqd. C-130H  
223rd Heavy Airlift Sqd. N-22B Nomad

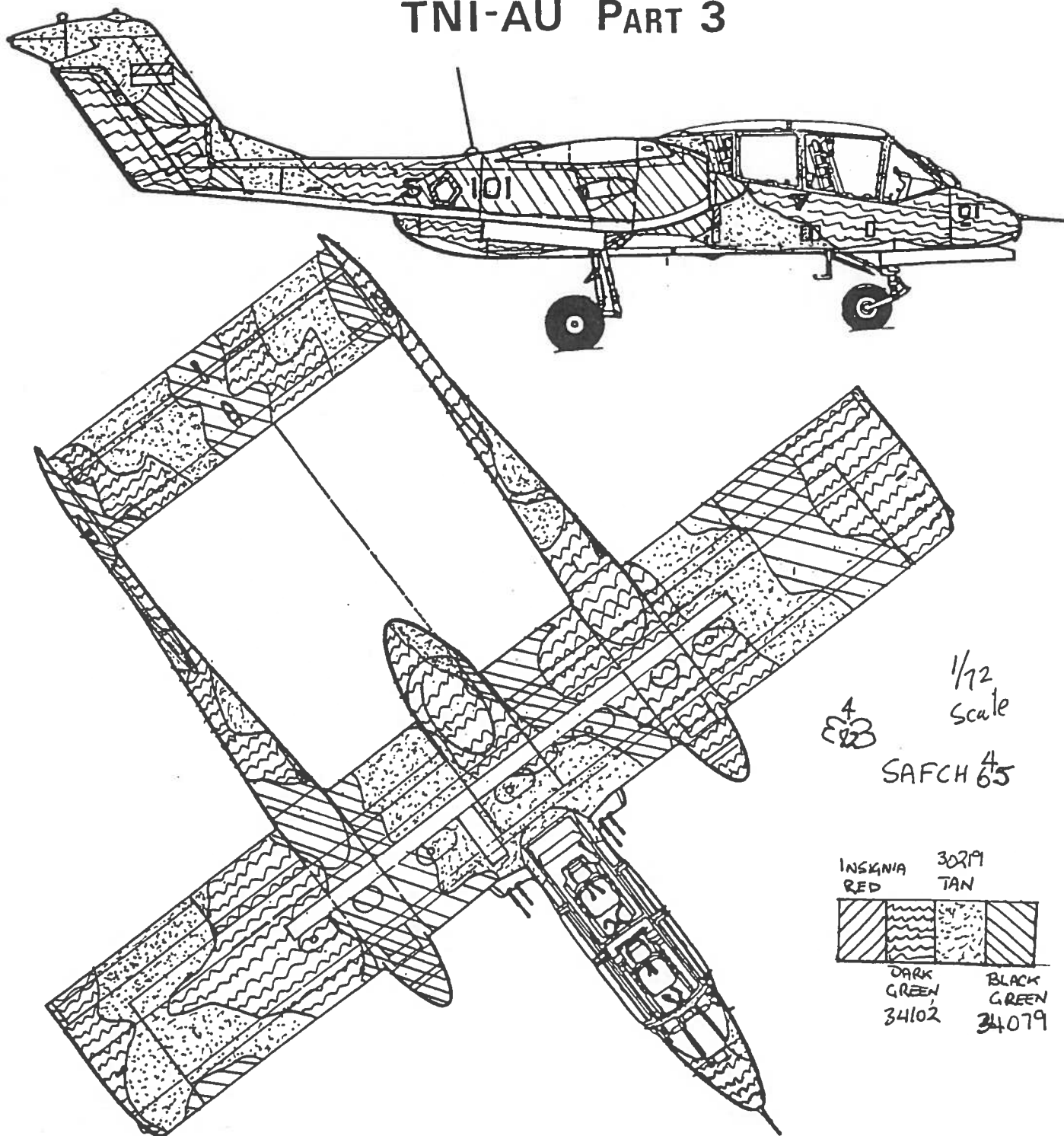
100th Training Wing, Fernando Air Base, Lipa City  
Primary Training T-41D, SF-260P  
Basic Training SF-260W

## Other Units

530th Air Base Wing, Edwin Andrews Air Base, Zamboanga City.  
560th Composite Tactical Wing, Mactan Air Base, Mactan.  
570th Air Base, Palawan  
580th Aircraft Control and Warning Wing, Nichols Air Base.  
590th Flight Facilities and Communications Wing, Nichols Air Base.  
35th Airlift Division, Nichols Air Base  
205th AW, 220th HAW, 240th CW  
55th Air Logistics Division, Nichols Air Base  
410th Air Maintenance Wing; 420th Supply Wing

Continued on page 126

# TNI-AU PART 3



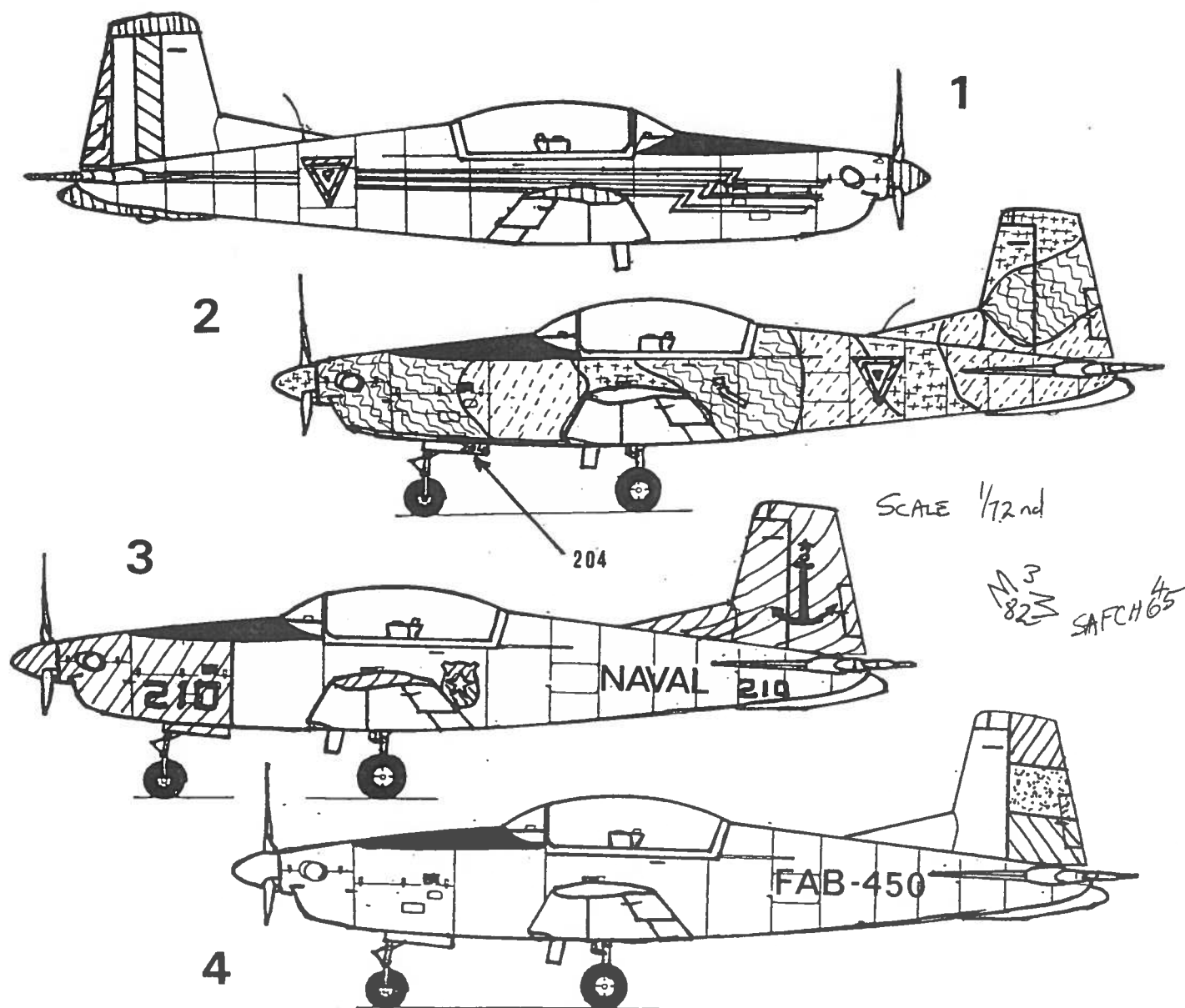
Rockwell OV-10F, S-101, 3 Squadron. Upper surfaces: USAF S.E. Asian camouflage - black green (FS 34079), dark green (FS 34102), and tan (FS 30219). Under surfaces and wing walkways: light grey (FS 36622). "S 101" and "01": black. Exhaust pipes: burnt metal. Undercarriage: struts & wheel hubs - white; oleos - silver. Insignia: fin flash and pentagons (side booms and under wings only) - red & white. Warning markings: stripe - red with white "PROPELLOR"; ejection seat warning triangle - red & white.

N.B. Gun sponsons omitted for clarity. Port side drawing (in color) of this scheme appears in Ref. 2.

References: AIR FORCES OF THE WORLD, Hewish. Air International, August 1981.  
Mick Mirkovic (SAFCH #465), 11/32 Curlewis St., Bondi, NSW 2026, AUSTRALIA



# LATIN AMERICAN PC-7's



1. Escuela Militar, Fuerza Aerea Mexicana. Overall: trainer yellow. Fin tips, spinner, wing tips, elevators, ventral fin, & fuselage flashes: blue (FS 15180). Insignia: triangles (6 positions): red, white, & green; rudder stripes - red, white, & green (green leading).

2. No. 204, Fuerza Aerea Mexicana (CAS/COIN version to equip the Escuadrones Aereo de Pelea.) Upper surfaces: light green (FS 34230) (shown as crosses), brown (FS 30277) (shown as wiggly lines), & green (FS 34102) (shown as dashes). Under surfaces: light grey. "204" on nose wheel door: black. Insignia: as above but without the rudder stripes.

3. No. 210, Armada de Chile. Overall: aluminum. Fin, rudder, wing tips, tailplane tips, nose, & spinner: orange. "210", "NAVAL", and anchor on tail: black. Insignia (6 positions): shield blue & red; star white.

4. FAB-450, Fuerza Aerea Boliviana. Overall: light grey. "FAB-450": black. Insignia: roundels (4 positions on wings) - red, yellow, & green (red outermost); rudder stripes - red, yellow, & green (red top most).

N.B. All Aircraft. Anti-glare panel: black. Propellor: black blades with white tips and stripes.

References: Air International, September 1981; November 1981.

Mick Mirkovic (SAFCH #465), 11/32 Curlewis St., Bondi, NSW 2026, AUSTRALIA

Following is a summary of information included in the June 81 to November 81 issues of South East Air Review.

Denmark: MAP F100's are being delivered to Turkey, following delivery to Denmark of F16's. The following F100's went to Turkey so far: F100D 54-2177, 54-2206, 54-2261, 54-2266, 54-2274, 54-2283, 54-2303, 55-2744, 55-2748, 55-2751, 55-2765, 55-2775, 55-2779, 55-2782 and F100F 58-6976;

Norway: Likewise MAP F104's are being delivered to Turkey for the same reason. The following went so far: (R)F104G 61-2626, 61-2629, 61-2630, 61-2631, 61-2633, 62-12232, 62-12233, 62-12239, 62-12240, 64-17757, 64-17758, 64-17785 and TF104G 62-12263. Five SK50B Safirs delivered in 1979 ex R.Swed.AF are 50040 (c/n 91252), 50058 (91267), 50071 (91281), 50074 (91284) and 50076 (91286);

Turkey: The T38A's delivered in 1979 ex-USAF were 23617, 23621, 23624, 38145, 38161, 38201, 23611, 23727, 38173, 38195, 38203, 38206, 38216 and 38220 while 1980 saw delivery of 23649, 23708, 23711, 38159, 38183, 38191, 38205, 38208, 23688, 23696, 23728, 23737, 23749, 38210, 38231 and 38233;

Bangladesh: camouflaged Bell 212's seen in April 1981 in Singapore were BH169 (c/n 31169), BH774 and BH796;

Bolivia: New Cessna 206G's are 237 (c/n 05929), 238 (05996), 239 (06046), 240 (06075), 241 (06089), 242 (06098) and 243 (06121);

Morocco: In the last half of 1981 the following F5's were delivered: F5E's 79-1932 to -1940 incl. and F5F's 79-1942 to -1945 incl.;

Nicaragua: FAN/FAS aircraft seen in Nov.80 were C47 203, Arava 223, T33A 172, 174 and 175 and H34 '51';

Spain: A review of T6 Texan/Harvard deliveries is as follows:

C 6- 1 to C 6- 60 are T6D del.Aug.54 to Nov.56  
E16- 61 to E16-120 are T6G del.Nov.56 to Jan.58  
C 6-121 to C 6-150 are SNJ5 del.61  
C 6-151 to C 6-190 are T6D, T6G and SNJ4/5/6 del.62/63  
E16-191 to E16-201 are T6G del.Aug.65 from France;

Egypt: Egyptian AF serials for the ex-USAF F4E's include: 7804 (ex-USAF 60735), 7811 (70238), 7816 (70307), 7808 (70373), 7809 (70264), 7823 (60341), 7824 (70332) and 7835 (70278). Don't forget to read Aviation Week and Space Technology's December issues about the Egyptian AF! The Egyptian Mirages are 5SDE 1001 to 1054 incl., 5SDD 2001 to 2006 incl., while 3001 to 3006 incl. are

5SDR. A further 15 Mirage 5's are still on order. Some of the 5SDE's and 5SDR's are most probably ex French Air Force, but discussions continue;

Kenia: has 8 D028D's which are serialised 112 to 119 incl. and have c/n's 4319, 4320, 4326 to 4329, 4344 and 4345. The six Puma's are 401 to 406 incl. with c/n's -?- , -?- , 1388, 1391, 1452 and 1453;

Iraq: the 52 PC-7 TurboTrainers now being delivered are c/n 146 to 193 incl. and 240 to 243 incl., with serials 5000 to 5051 incl. The Mirages are F1BQ 4000 to 4005 incl. and F1EQ 4006 to 4060 incl. Of the 18 BO-105's ordered, 8 were embargoed (c/n's 441 to 448 incl.) while the 10 a/c delivered were c/n S360, S361, S362, S383, S384, S385, S393, S394, S400 and S401;

South Korea: F5B 74-2122 was seen in Jan.81. This a/c is from a batch of 32 F5B's for which we have no idea of where they went to. They were 74-2097 to -2112 incl. and 74-2114 to -2129 incl.;

Belgium: Paul Jackson has unearthed more info about the RAF identities of Belgian Oxfords and Consuls. Belgian F16A w/o's so far are FA08 w/o 28 Jul 80 near Buzet, FA11 w/o 12 Mar 81 near Ville du Bois, FA29 w/o 22 Oct 81 near Soumoy;

Pakistan: Total Mirage deliveries seem to be as follows: 67-101 to 67-118 are IIIEP, 67-301 to 67-303 are IIIDP, 70-304 and 70-305 are SDP, 67-201 to 67-203 and 75-204 to 75-213 are IIIRP. The 28 Mirage VPA are 70-401 to 70-428 while another 30 are on order. The two VDPA's on order are 306 and 307 which were delivered in Sep 81.

Six HH-43 Huskies were received, serials 24552 to 24557, at least four of which are still in use;

Taiwan: We're still suffering from a lack of knowledge as far as F104's are concerned. SEAR had the courage and has put something to paper, but there is more! Anyone who considers himself capable in further discussions is invited to contact Ben Marselis (address below);

Uruguay: Following delivery in 79/80 of nine ex-Argentine T28's, another nine were received in 80/81, as well as the remaining four of six Chilean Navy T34's;

Compiled by Ben Marselis  
P.O.Box 5065  
2701 GB Zoetermeer  
Netherlands

PHILIPPINE AIR FORCE

Continued from page 123

Blue Diamonds Aerobatic Team (6th TFS F-5A's)  
Reserve Airlift Support Unit (RASU), Nichols Air Base  
Cessna 180, Private light aircraft and helicopters

"If any of our members are interested in slides or color photos of PAF aircraft, I can provide these, perhaps on an exchange for kits basis, for as you know, kits are hard to come by in this country. If needed, I can also provide Squadron patches of the 5th Fighter Wing of the PAF."

Alberto Anido (SAFCH #4), PO Box 1406 MCC, Makati, Rizal, PHILIPPINES 3117.

-reviews-reviews-reviews-reviews-reviews-reviews-reviews-

In a review of Brendon Deere's MILITARY WINGS, Vol. 2, which appeared in SAFO #20, it was mentioned that the chapter on the Ventura was missing from the review copy. A complete copy has now been received from the author, and I am glad to report that the Ventura has not been left out. Missing from the first review copy only were 5 photos of the Tiger Moth and the entire chapter on the Ventura. This latter occupies 13 pages and includes 23 photos of RNZAF Venturas. As in all the earlier chapters, the photos are outstanding. This book is available from Graham Turner (SAFCH #424), 7 Eldorado Rd., Cheltenham, Glos. ENGLAND, for £ 3.95 including postage to SAFCH members.

## VULTEE VANGUARD

Sweden ordered 144 Vultee Vanguards on 6 February 1940. The US Government placed an embargo on all war-planes for Sweden, and Great Britain took over the Swedish contract. The first came off the assembly line painted in RAF finish with serials BW208 and BW209, but none were accepted by the RAF for the British had transferred their order to the Chinese. One-hundred and twenty-nine of the 144 Vanguards were delivered to China, with the remainder taken over by the USAAF who designated them P-66. These USAAF aircraft were assigned to the west coast of the US as pursuit trainers.

I developed these drawings from 3-views drawn by

Editor's Note: "Why don't they make a kit of the Vultee Vanguard?" (fill in your own favorite), is the lament heard from most modelers especially the aficionado of the esoteric aircraft used by the small air forces. For most of the history of scale modeling, scratch building from either wood or sheet plastic has been the only way out of this dilemma, but in spite of the argument that scratch building is "no harder than kit building, only more time consuming", the ranks of the scratch builders are still thin and populated mostly by the very talented.

Recently, a few of these very talented individuals have come to the rescue of the rest of us by producing either injection-molded, resin-cast, or vacuformed kits. While their efforts have greatly expanded the range of strange and wonderful "birds" available in kit form, until that millennium when each of us has an injection molder or a vacuform machine of our own, there will always be that special kit we want but that no one else seems to want to produce.

Wayne Denny is one modeler who hasn't let such things limit his choice of subjects. When he wants to build an aircraft not available as a kit, say a Vultee Vanguard, he draws up a set of 1/48-scale plans and vacuforms his own kit. Wayne has graciously consented to share his experiences with us, both by describing his techniques for producing vacuform models, and by providing us with scale plans from which we can try our hand at producing some unusual models. His modeling techniques, described below, should sound pretty familiar to anyone old enough to have been modeling before the advent of the "plastic" kit.

Also included in this issue, are Wayne's drawings of the Vultee Vanguard. They are reproduced both in his original 1/48 scale and in 1/72 scale. Wayne promises to submit more plans, and a series on the Curtiss CW-21, 21B, and 23 are already on hand.

"Since I like the oddball aircraft that the kit manufacturers do not find profitable, it is necessary for me to do a lot of scratch building. Before construction can begin, it is necessary to have a good set of plans in the proper scale. Since I have been collecting 3-views, photos, and books for about forty years it is usually possible to find the information needed. Once the 3-view of the desired aircraft is found, the drawings are corrected and converted to 1/48 scale.

"Since the main components will be vacuformed, start by building the master molds. Using the cross sections on the drawings, make templates from sheet aluminum, although plastic sheet would be just as well. As far as the selection of wood is concerned, I have found that balsa works as well as anything, and it is much easier to work with than the harder woods. After spot gluing two pieces of wood together, draw the top and side view, be-

R.L. Brown and published in MODEL AIRPLANE NEWS 1941. Also, I received a great deal of help from Taylor's COMBAT AIRCRAFT OF THE WORLD, Mizrahi's AIR CORPS, and Green's FIGHTERS, VOL. 4.

I do not have the proof, except from pictures I've found in magazines and books, but I think that the tail-wheel clam shells and the inner wheel-covers were removed from the Vanguards after delivery to China (because of the poor conditions on the landing fields)."

Wayne Denny (SAFCH #422), 5113 Gaviota Ave., Long Beach, CA 90807.

ing careful to allow for the thickness of the plastic, and saw to shape. Then comes the carving.

"After the part is completely carved, use a surface filler of clear lacquer and talcum powder mixed to a syrupy consistency. Brush on the first coat and allow to dry, then, using 00 sand paper, smooth it out. Apply coats two, three, and four, then go to a 400 wet/dry paper. Coats five and six are followed by 500 or 600 sand paper. The resulting part should end up with a glass-smooth surface.

"Split the two half apart with a chisel or knife blade. Then attach each of the two halves to a 1/4-inch base. This base serves two functions: It allows the plastic to be pulled down far enough to give a good separation from the parent sheet, and it gives a distinct trim line. I have found from experience that it pays to leave the molds in the plastic for several days before removing the plastic.

"If you are not going to reuse the molds, the master molds can be used to produce accurate fuselage bulkheads and wing ribs. Glue the two halves of the master mold back together and cut at the desired positions. Ink the cut surface with a stamp pad, and make a copy of the cross section by pressing it on a piece of paper placed over a soft surface such as a folded paper towel. Then glue the paper pattern to the desired thickness of plastic sheet and cut out the bulkhead.

"The rest of the construction proceeds just as if you were assembling a standard kit.

"Molds for vacuforming small parts from other kits such as radial engines and wheels, can be made from Epoxy Bond obtained from your friendly neighborhood plumber. Using vaseline or vegetable oil as a parting agent (believe me you will need it), press the desired part into the mixed epoxy to obtain a female mold. For landing gear struts, propellers, and other parts that are difficult to duplicate, I tend to rely on the scrap drawer. Epoxy Bond is also a good way to make molds for vacuforming canopies, either for your scratch-built model or to replace the over thick canopy on your favorite kit.

"Don't be afraid to use parts from other kits when applicable. To build a model of the Curtiss P-40Q use the wings, tail section, and landing gear from the Monogram P-40B. For an XP-37 use the wings, tail section, and landing gear from the AMT P-36.

"As you gain experience and confidence, only your imagination will limit your pleasure in building those planes you have always wanted to do. Actually, there is no limitation at all. HAVE FUN."

Wayne Denny (SAFCH #422), 5113 Gaviota Ave., Long Beach, CA 90807.

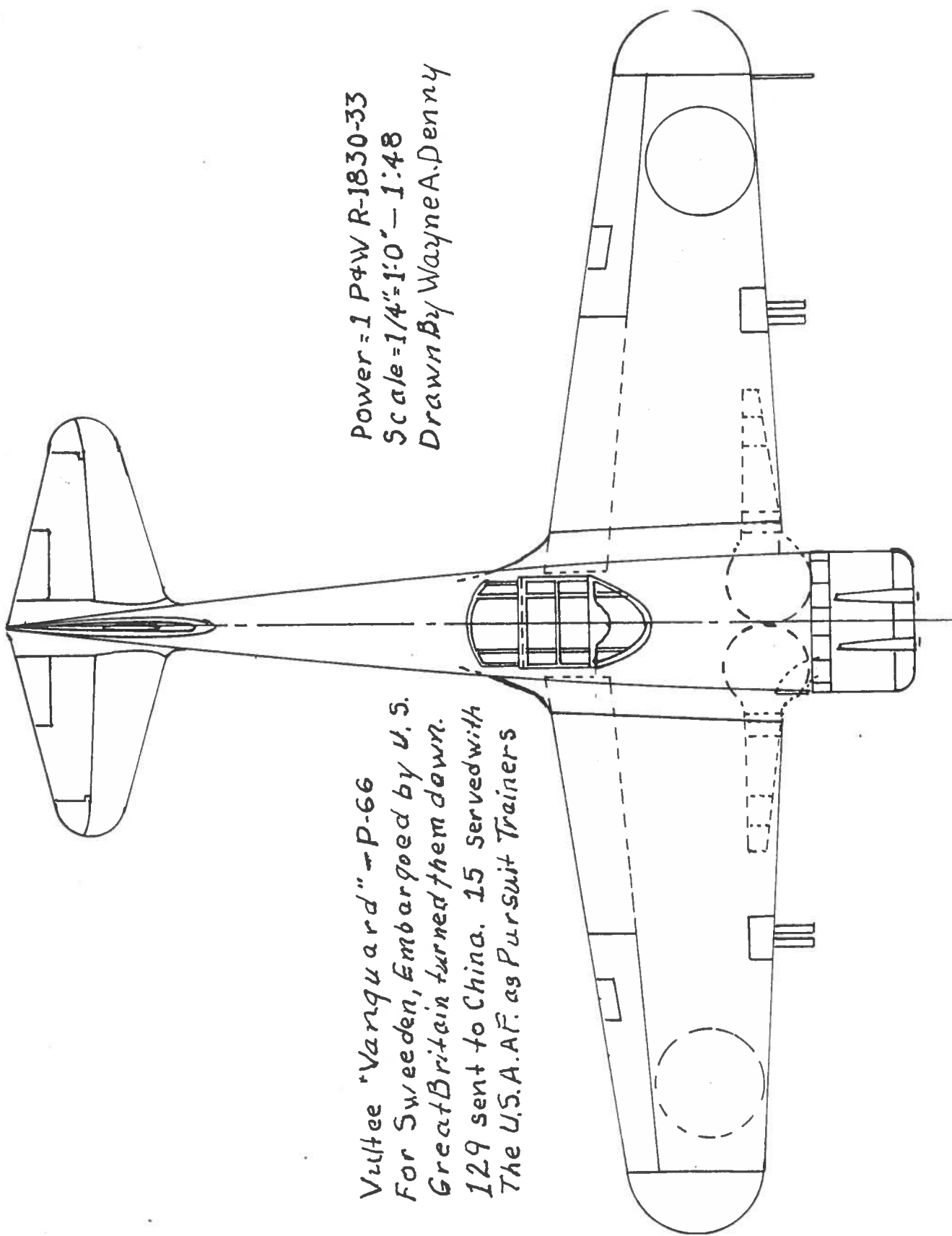
### IRELAND

Continued from page 121

and are not suited to covering the full 200-mile economic zone. Consequently, acquisition of a type which would permit the full area to be kept under surveillance is being evaluated. Possible contenders include the Dassault Falcon/Guardian and the Fokker F27MPA. Another proposal under active consideration is a ship-borne helicopter to be used in conjunction with patrol vessels being procured for the Navy which feature a helicopter deck. The Aerospatiale Dauphin is a possible contender for this requirement. A follow-on to the Puma lease also

requires a decision, the preference being for one or two Super Puma. Further out is the requirement to replace the Alouettes, and here again the Dauphin would seem a strong contender, bringing fast, twin-engined capability to the role.

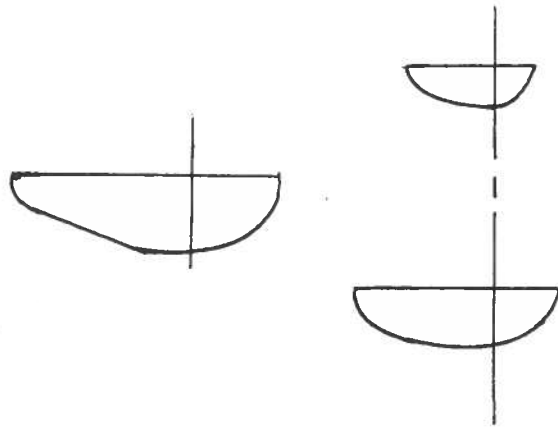
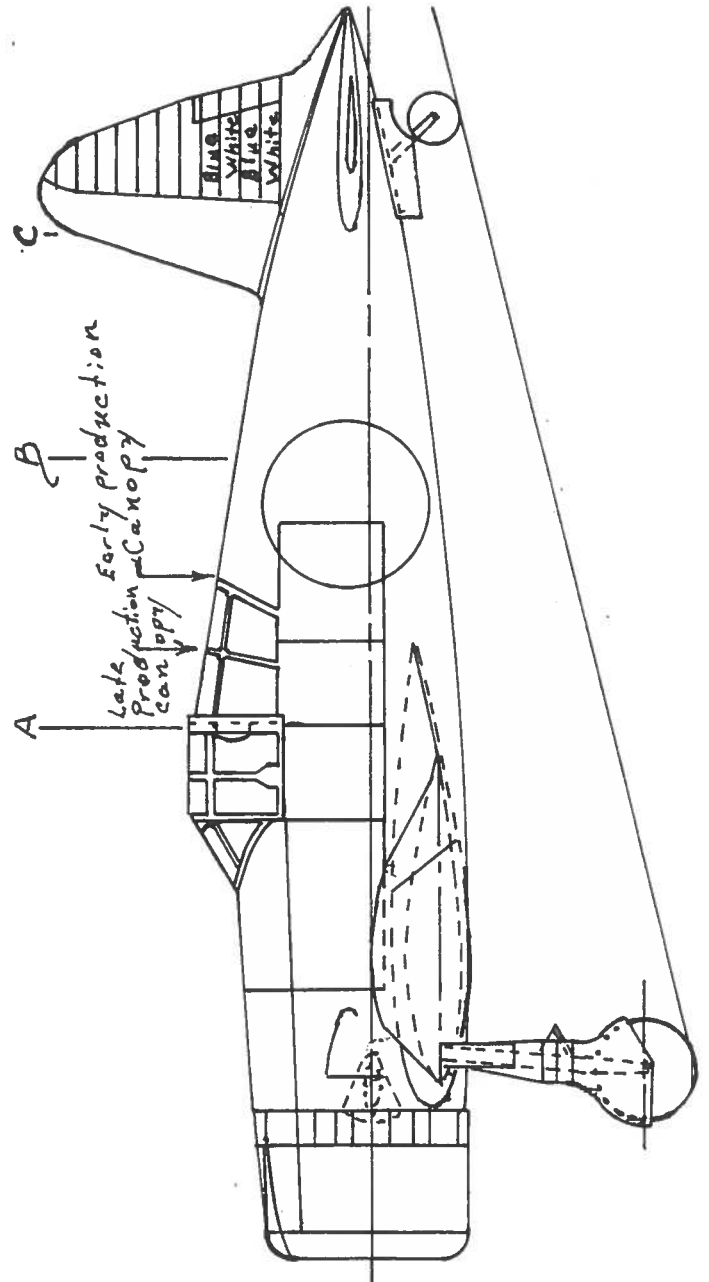
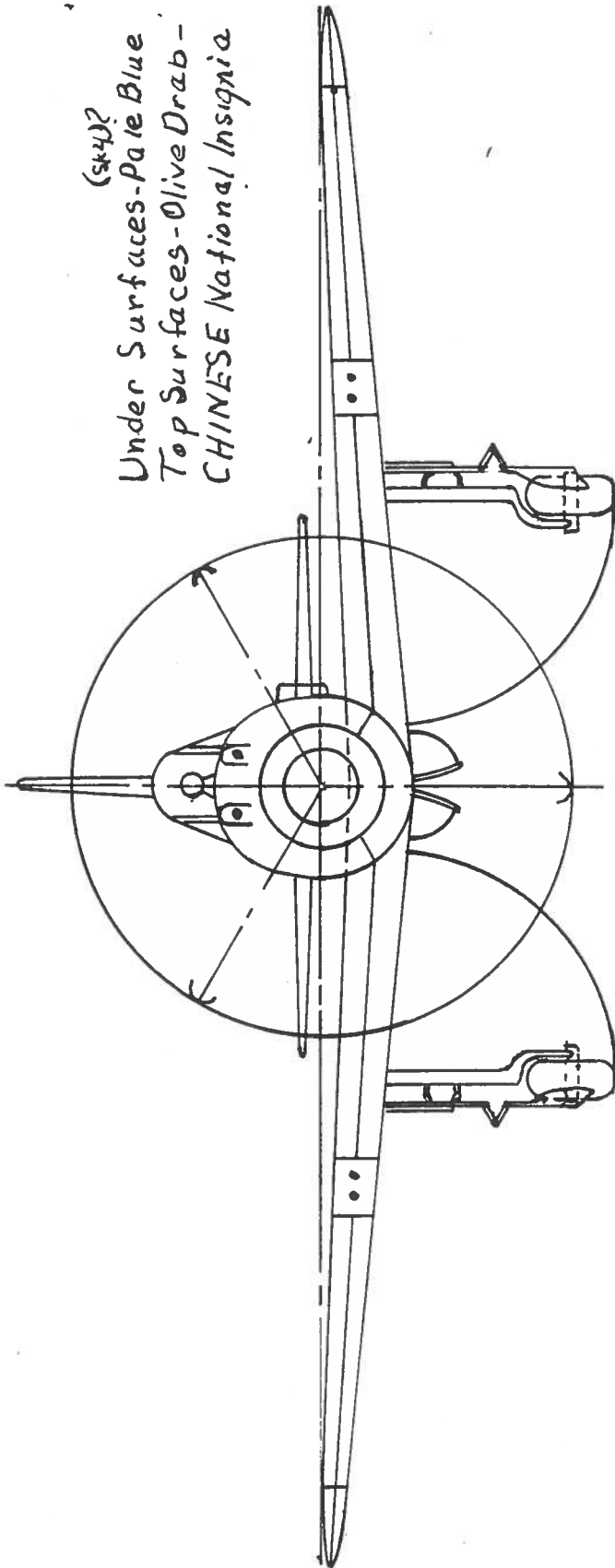
(Editor's note: This article first appeared in the IRIISH AIR LETTER and is reprinted here with the kind permission of their editor, Karl Hayes (SAFCH #569), Crakaig, Killiney Hill Rd., Killiney Co., Dublin, IRELAND.)



Power = 1 P4W R-1830-33  
 Scale = 1/4" = 1'0" - 1:48  
 Drawn By Wayne A. Denny

Vultee "Vanguard" - P-66  
 For Sweden, Embargoed by U.S.  
 Great Britain turned them down.  
 129 sent to China. 15 served with  
 The U.S.A.A.F. as Pursuit Trainers

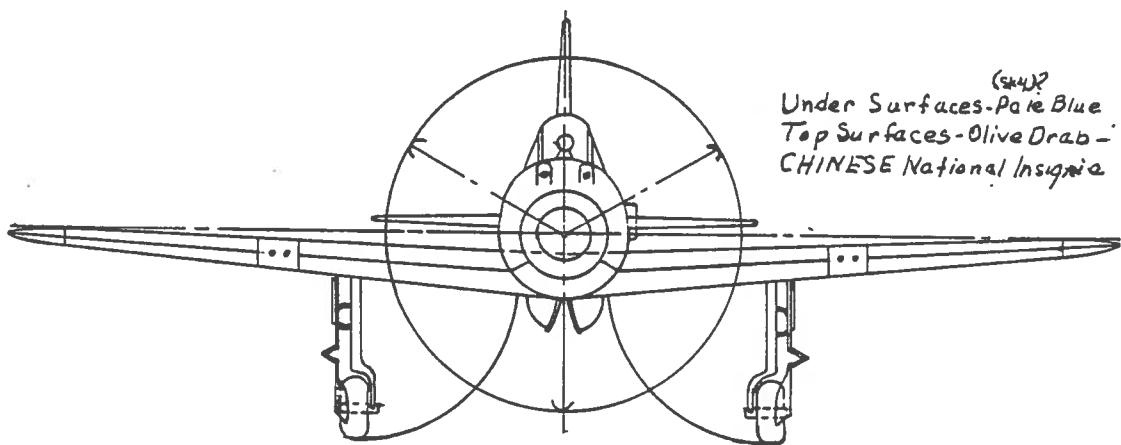
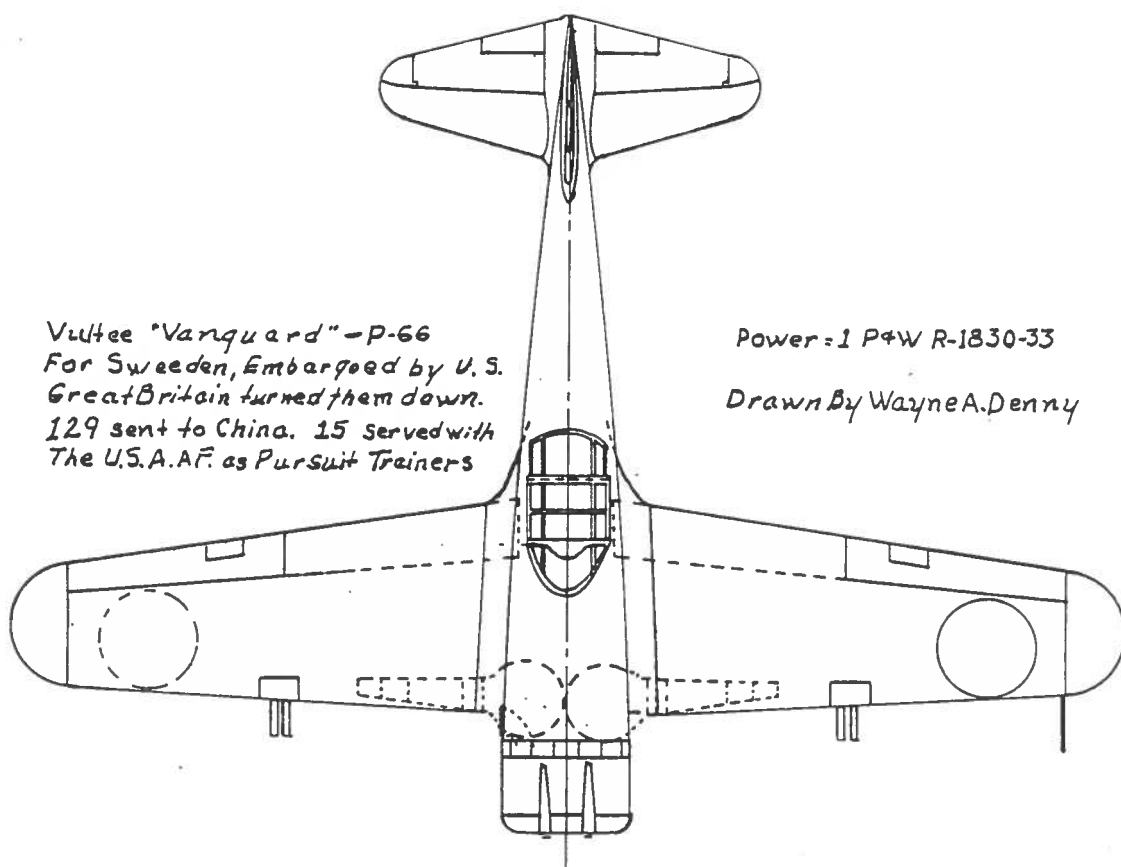
(sk4)?  
 Under Surfaces-Pale Blue  
 Top Surfaces-Olive Drab-  
 CHINESE National Insignia



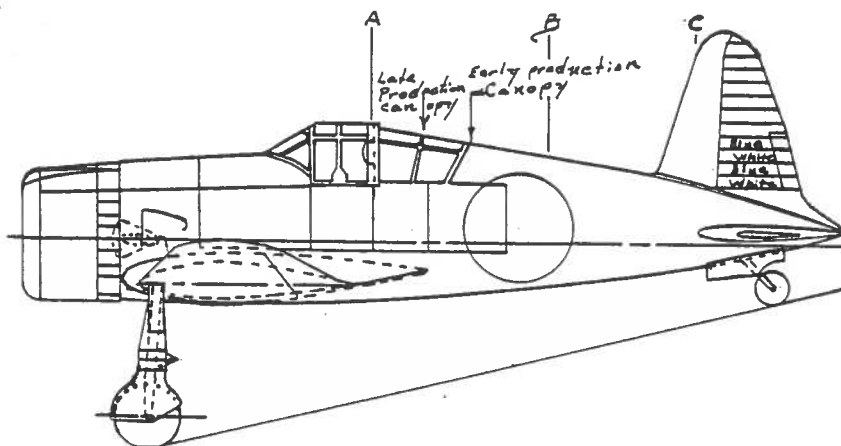
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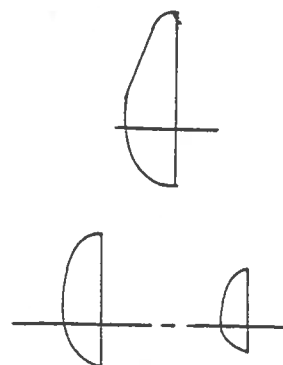
Drawn By Wayne A. Denny



(S44)?  
 Under Surfaces-Pale Blue  
 Top Surfaces-Olive Drab -  
 CHINESE National Insignia



A Late Production Canopy  
 B Early production Canopy  
 C



# AIRCRAFT OF THE SMALL AIR FORCES

## IRAN

Aero A-30	23/	1
Aero Commander 690	/76*	3
Aerospatiale S.A.321 Super Frelon	73/76*	16
Agusta-Bell AB205A	73/76*	102
" " AB206A	73/76*	84
" " AB212AS	73/76*	11
" (Meridionali)-Boeing Vertol CH-47C	73/76*	38
" (Sikorsky) SH-3D, S-61	73/76*	10
Bell 214A (142 more on order 76)	/75/76*	100
" AH-1J (187 more on order 76)	74/76*	60
Beechcraft Bonanza F32C	73/75	30
" " F33A (19 more on	73/76*	18
" " F33C order 76)	73/76*	27
Boeing 707-320C, E-3A(#2)	73/76*	12
" 747 (12 more on order 76)	/76*	3
" Stearman PT-13 Kaydet		
Brequet	24/	
Cessna 185	73/76*	45
" 310	73/76*	6
" O-2A	73/76*	12
" T-41	/76*	30
Dassault Falcon 20	/76*	4
deHavilland D.H.4	24/	4
" D.H.9	24/	
" D.H.82 Tiger Moth	32/	18
" Canada DHC-2 Beaver	73/76*	7
Douglas C-47	/73/76*	5
" C-54	/76*	6
Fokker-VFW F.27M (2 more on order 76)	/75/76*	20
" F.27 Mk600?		
Grumman F-14A Tomcat (16 more on order 76)	/75/76*	80
Hawker Audax		32
" Fury	33/	12
" Hart	33/	
" Hurricane IIC	38/45	34
Junkers F-13	22/	5
Kaman HH-43B Huskie	73/76*	30
Lockheed C-130B, E, H Hercules	73/76*	57
" P-3F Orion (6 more on order 76)	/76*	6
" T-33A, RT-33A	56/76*	9
McDonnell Douglas F-4D	73/76*	32
" " F-4E	"	141
" " RF-4E	"	4
(36 more F-4's on order 76)		
North American AT-6 Texan	/76*	
" " F-86F Sabre	73	20
" " (Canadair Sabre Mk.6)	73	
Northrop F-5A	73/75	12
" F-5B		18
" F-5E		100
" F-5F		
" RF-5A		13
" (41 F-5E's on order 76 & 12 RF-5E's)		
North American Rockwell Turbo commander 681	73/75	3
Potez	24/	
Piper L-4		
" L-18C	73/75	
" Pa-18 Super Cub		
R-1 (D.H.9A)	24/	
Republic F-84G Thunderjet		
" P-47D Thunderbolt		
Spad	24/	
Sikorsky S-65A	/76*	6

## IRAQ

Aero L-29	73/76*
" L-39 (on order 76)	

Aerospatiale Alouette III (2 on order 76)	76*	40
Antonov An-2	73/76*	12
" An-12	73/76*	6
" An-24	/76*	10
" An-26	73	10
Auster A.O.P.6	48/	
" T.7	48/	
Avro Anson	38/	
BAC Jet Provost T.52	73/76*	20
Breda Ba.65	37/	
Bristol Freighter Mk.31M	48/	
Britten-Norman BN-2A (3 on order?)		
Dassault Mirage 5		
deHavilland D.H.60T Gipsy Moth	31/	9
" D.H.80 Puss Moth	32/	
" D.H.82 Tiger Moth	34/	
" D.H.84 Dragon	34/	
" D.H.89A Dragon Rapide	38/	
" D.H.90 Dragonfly	38/	
" Dove	48/	7
" Heron		
" Vampire F.B.52	53/	12
" T.55	53/	6
" Venom F.B.50	55/	
" Canada DHC-1 ChipmunkT.20	51/73	
Douglas DB-8A-4	38/	15
Gloster Gladiator	38/	15
Hawker Fury	46/	30
" Trainer	46/	4
" Hunter F.6, FGA.59, T.66, T.69	73/76*	50
" Nisr	34/	
Heinkel He-111 (Ger. a/c in Iraq markings)	1941	
Hunting Provost T.53	/73	
Ilyushin Il-14	73/76*	13
" Il-28	73/76*	10
Messerschmitt Bf110 (Ger. a/c in Iraq markings)		
Mikoyan-Gurvich MiG-15UTI	73/76*	
" MiG-17	73/76*	30
" MiG-19	/75/76*	20
" MiG-21, MiG-21UTI	73/76*	90
" MiG-23	/76*	40
Mil Mi-1	73/76*	4
" Mi-4	73/76*	35
" Mi-6	/75/76*	16
" Mi-8	73/76*	30
Savioia-Marchetti S.M.79B	37/	
Sukhoi Su-7B	73/76*	9
Tupolev Tu-16	73/76*	9
" Tu-124	73/76*	2
Westland Dragonfly		
" Wessex Mk.52	73/76*	9
Yakovlev Yak-11		
" Yak-18	73	

## ISRAEL

Aeronca L-16?		
Agusta-Bell AB.205A	69/76*	25+
Airspeed Consul	50/	few
Ambrosini S.1001 Grifo		
Auster A.O.P.3	48/	18-20
" J/1 Autocrat	48/	1
Avia S-199(C.210)	48/	25
Avro Anson Mk.I	49/	few
Beechcraft Bonanza(35 or A35)	48/	3
" Queen Air	71?/76*	20
Bell 47G		
" 205 UH-1D	69/	25+
" 206 Jet Ranger	69/	
" AH-1	77?/	
Boeing B-17G Flying Fortress	48/58	3
" C-97G	68?/	>7/8
" C-97L	"	





# CONFLICTS, COUPS, CRISES & CLASHES

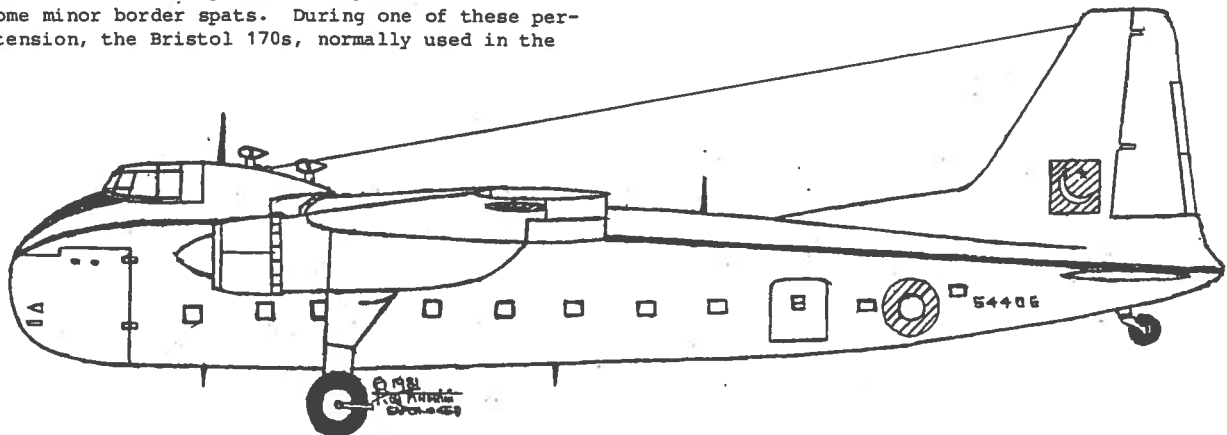
## A SURVEY OF THIRD-WORLD AIR COMBAT FROM 1946 TO THE PRESENT

No. 22. Bristol 170 Mk. 31M, No. 12 Squadron, Pakistan Air Force, based at Mauripur circa 1956.

Border tensions between Pakistan and Afghanistan are not totally a product of present events. Such occurrences have been common since 1947. When Britain gave independence to the Sub-Continent, Afghanistan felt that much of the territory along the Northwest Frontier, seized by Britain in the 19th Century and now part of Pakistan, should have been returned. Afghanistan had suggested that the territory in question be made into an autonomous state, called Pushtunistan. Off and on during the 50's, Pakistan's refusal to recognize the Afghan claims resulted in some minor border spats. During one of these periods of tension, the Bristol 170s, normally used in the

transport role, were employed on reconnaissance flights, operating from bases in the Northwest Frontier region.

It should be noted that at this time the separation of West and East Pakistan (now Bangladesh) posed some logistics problems. The range and versatility of the Bristol 170 went a long way in alleviating these. Besides the normal task of supplying far flung villages and outposts, the Bristol 170 performed a bit of photo-mapping on the side while crossing over India's northern periphery.



No. 23. Ilyshin Il-10 (Beast), Hungarian Air Force, October 1956.

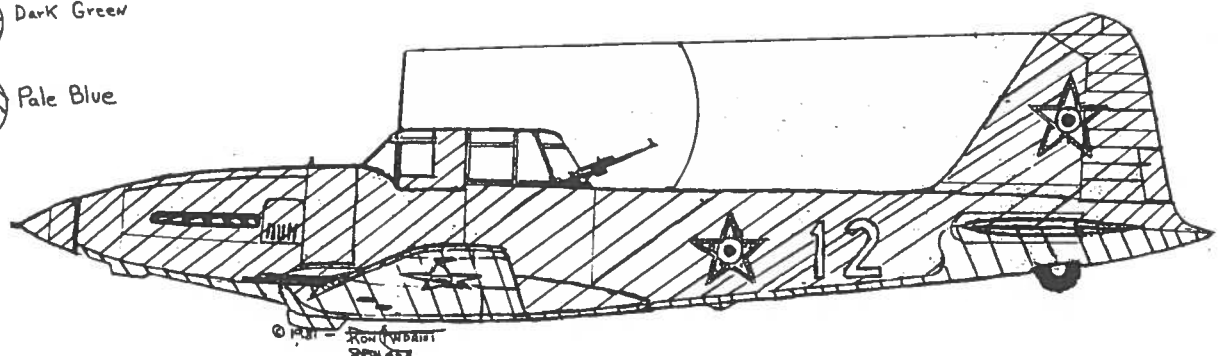
Ever since 1947, Hungary had been experiencing serious internal unrest in the party and the nation overall. Nikita Khrushchev's de-Stalinization program of 1956, with its hopes of increased liberty, added to the unrest in Hungary. A popular demonstration held in Budapest in October was fired upon by Soviet forces. Events snowballed with fearsome rapidity as the former unrest quickly turned into a general revolt against Communist control with uprisings springing up throughout Hungary. Imre Nagy, a moderate Communist, set up a decidedly pro-Western government. At the same time, Erno Gero, the ousted party secretary, called upon the Soviet Union for assistance.

Hungarian armed forces sided with the people for the

most part. Combat between the Hungarian and Soviet forces raged throughout the country. By November 4th, the Soviets had effectively quelled the rebellion. An unfortunate aspect of the Hungarian Revolt were the Radio Free Europe and Voice of America broadcasts that stimulated the rebels into believing that the USA would intercede on their behalf.

At the time the Hungarian Air Force had on hand more than 700 aircraft of all types. Included in this force were several ground attack regiments made up of Il-10 bombers. During the period of revolt, Hungarian air opposition, undeniably heroic, was soon nullified by superior numbers of Soviet aircraft.

Note: Some rebel aircraft had green/white bands painted on the wings and fuselage. It is not known whether any Il-10s carried such markings.

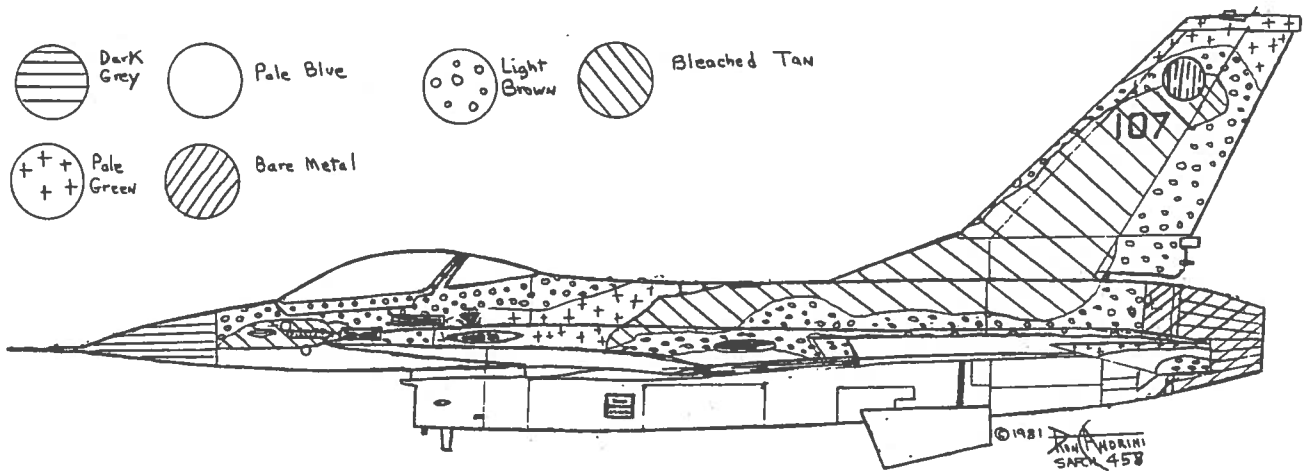


No. 24. General Dynamics F-16A Fighting Falcon, Chel Ha'Avir Le Israel, June 1981.

"History will always belong to the strong" goes an old saying in the Middle East. On June 7th, 1981, Israel demonstrated to the world not only its version of the old saying but its own definition of an ounce of pervention is worth a pound of cure. According to Israeli views, the French designed Osirak reactor situated in the Tuwaitha complex outside of Baghdad, was being used to manufacture weapons-grade nuclear material. Iraqhas strongly claimed to the contrary. Be it Israel or Iraq that was truthful, the fact remains that the deed was done. The accomplishment of that deed was no mean feat. With F-15s flying protective cover, the F-16s carried 2000 lb bombs delivered with "stupefying" accuracy, as

one witness was heard to say. (This suggests the possibility that the bombs were laser guided or otherwise soup-ed up for "delivery enhancement".) It is probable that the attacking aircraft skirted around Jordan and across the northern fringe of Arabia on their way to Iraq.

The pilots are supposed to have spoken only in Arabic, which if true, must have certainly added to the confusion of a few ground controllers in Jordan and Iraq. Apparently surprise was complete as AA fire was minimal. Even four USAF E3A (AWACS) aircraft on station in Saudi Arabia did not register the attackers - or so we are led to believe. Iraqi leaders have vowed to rebuild the reactor and inevitably, Israel responded by vowing to bomb it again.

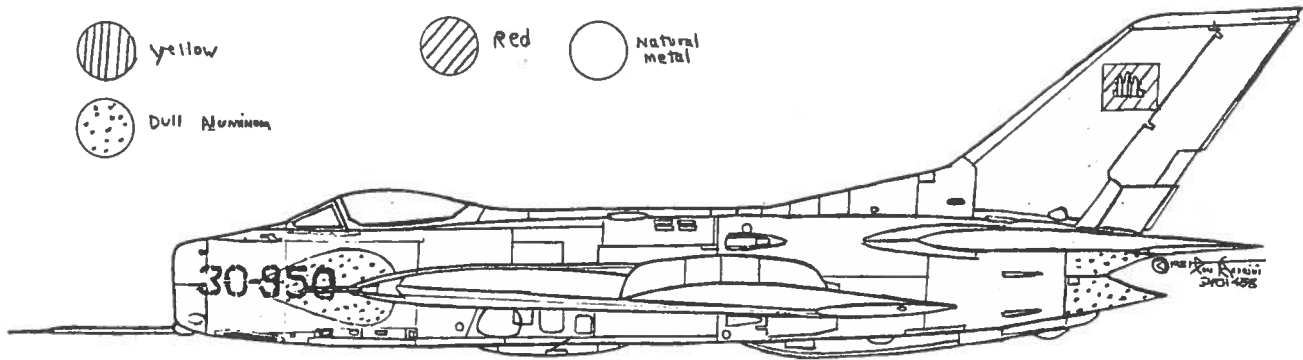


No. 25. Shenyang F-6 (MiG-19 Farmer) of the Khmer Liberation Army, late 1978.

Much as a stuck phonograph needle, the agony, not to mention the confusion, of Cambodia (Kampuchea) goes on without prospect of abatement. In April 1975, the Communist Khmer Rouge forces gained ascendancy by displacing the USA-backed military government of Cambodia. In its wake, ensued one of the most vile, barbaric regimes ever to exist, being on a par with Hitler's and Idi Amin's. In December 1978, in response to a Khmer Rouge incursion into Tay Ninh Province, the Vietnamese launched a major invasion of Cambodia. During this time, the Khmer Liberation Army's air arm was comprised of a handful of air-

craft. Included among these were a few F-6s supplied by China.

No combat missions were undertaken by these aircraft. In fact, the only Khmer air activity, aside from a few helicopter liaison/recon flights, was near wholesale evacuation with 97 aircraft being flown to neighboring Thailand. The F-6 depicted here was captured at Pochentong airport, Phnom Penh, by advancing Vietnamese forces in January 1979. The F-6s were normally based at Kompong Chhuang. By April 1979, the nefarious Pol Pot had fled into Thailand. Khmer Rouge activity in Cambodia still persists and will continue for a long time.



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